

AKAI

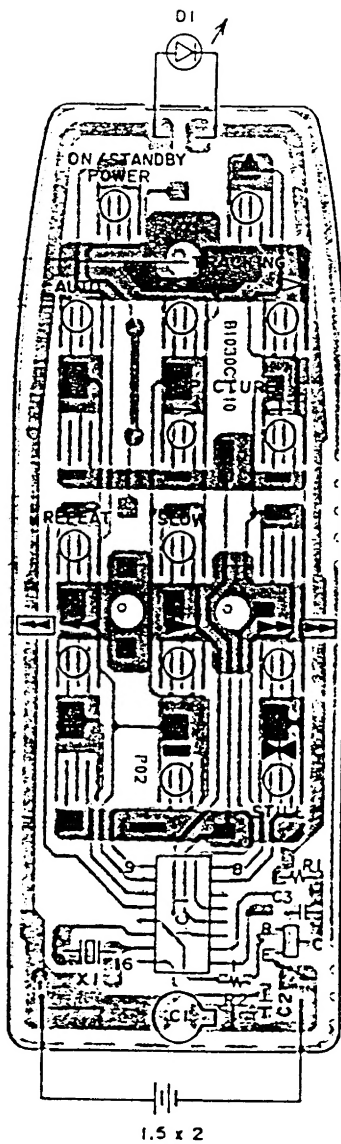
MODEL **VS-P120**_{EM}

MODEL **VS-R120**_{EM/EDG}

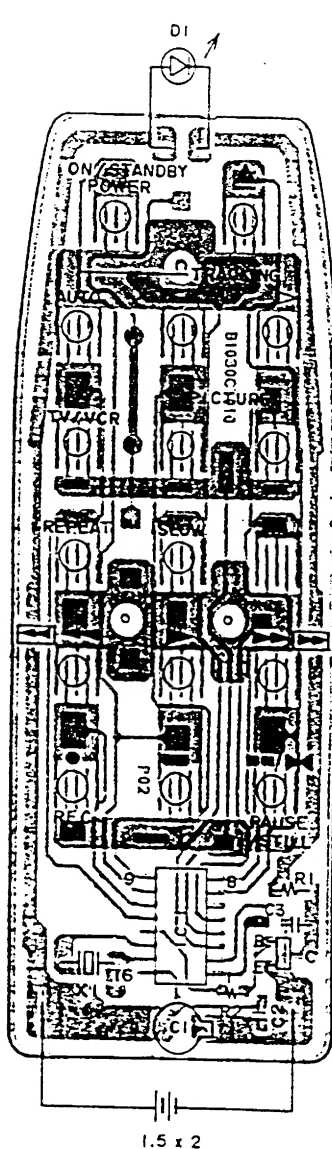
SCHEMATIC DIAGRAMS AND PC BOARDS

TABLE OF CONTENTS

1. SERVO & SYSCON BLOCK DIAGRAM	3
2. VS-P120EM, R120EM VIDEO & AUDIO BLOCK DIAGRAM	4
3. SENSOR AND OTHER PC BOARDS	5
4. OPERATION AND OTHER PC BOARDS	6
5. CONNECTION DIAGRAM	7
6. VS-P120EM, R120EM VIDEO/AUDIO (1/2) SCHEMATIC DIAGRAM	8
7. VS-R120EDG VIDEO/AUDIO (1/2) SCHEMATIC DIAGRAM	9
8. OUTPUT/POWER & VIDEO/AUDIO (2/2) SCHEMATIC DIAGRAM	10
9. VIDEO/AUDIO & OUTPUT/POWER PC BOARDS	11
10. CONTROL SCHEMATIC DIAGRAM	12
11. CONTROL PC BOARD	13
12. RC-V22E/23E REMOTE CONTROL UNIT SCHEMATIC DIAGRAM	14
13. INFORMATION OF ICs	16

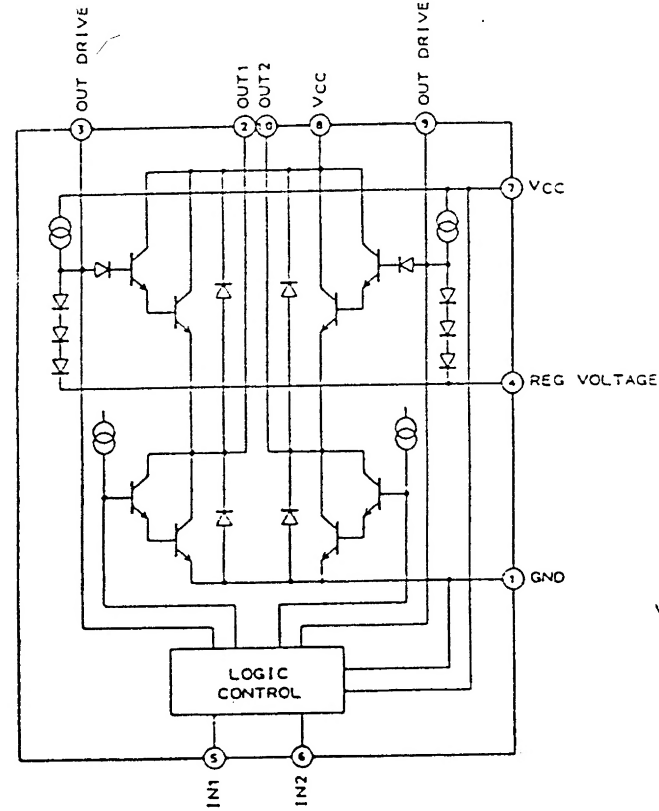


REMO-CON PCB
BIO30C5010
(RC-V22E)



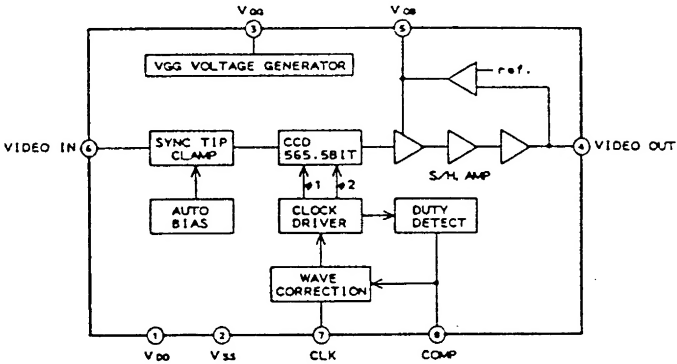
REMO-CON PCB
BIO30C5010
(RC-V23E)

BA6229 (BI-DIRECTIONAL MOTOR DRIVE)

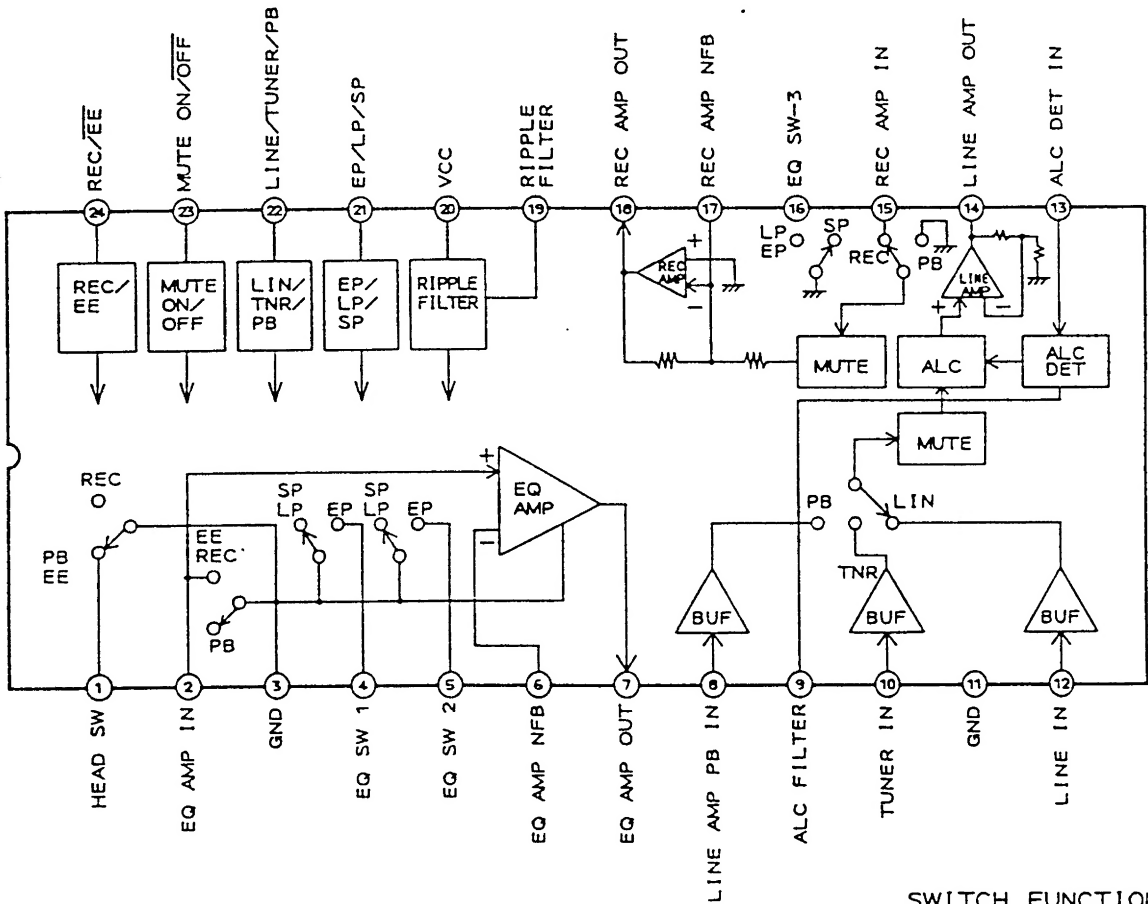


INPUT		OUTPUT		MODE
5	6	2	10	
H	H	L	L	BRAKE
L	H	L	H	CASSETTE & TAPE LOADING
H	L	H	L	CASSETTE & TAPE UNLOADING
L	L	OPEN	OPEN	STOP

LC8992 (CCD 1H DELAY LINE)

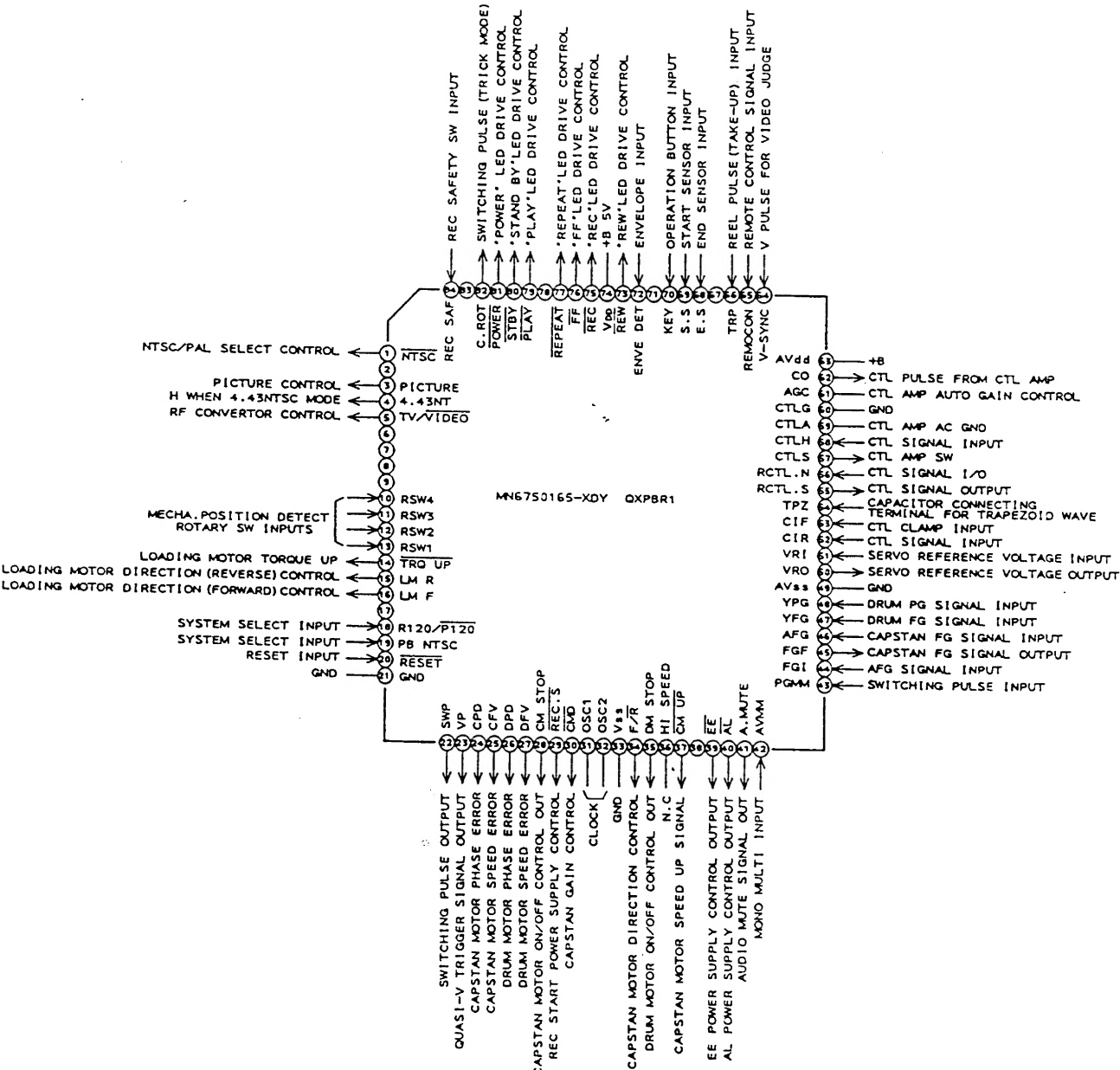


LA7285 (AUDIO SIGNAL REC/PB AMP)



SWITCH FUNCTION

DC LEVEL			
	0 ~ 1.0V	1.8 ~ 2.6V	3.6V
21 PIN	SP	LP	EP
23 PIN	PB	TUNER	LINE



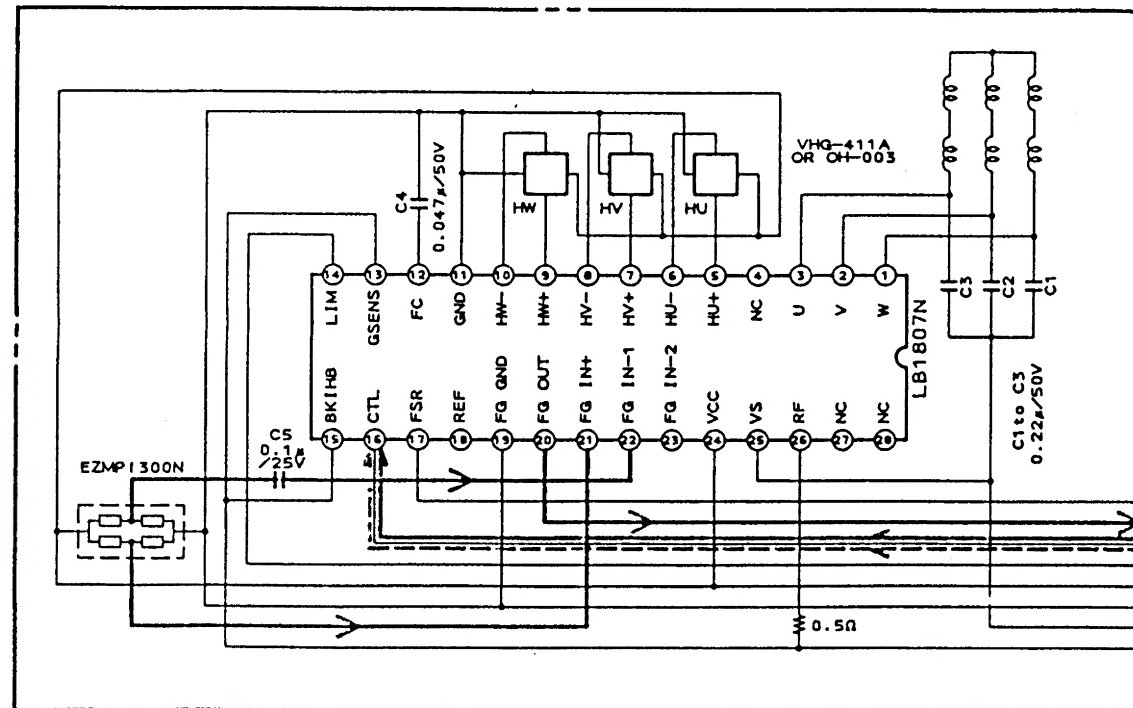
MODE OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY		PLAY		REVIEW		CUE		FF	REW	POWER OFF (WITH CASSETTE)
			A	B	A	B	A	B	A	B			
RSW 4	H (5V)	L	L	L	L	L	L	H	L	L	L	L	H
RSW 3	L (0V)	L	H	H	L	H	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L	L	H	H	L
RSW 1	L	H	H	L	L	H	L	L	L	H	H	H	L

(A: 2 VIDEO HEADS MODEL
B: 3 OR 4 VIDEO HEADS MODEL)

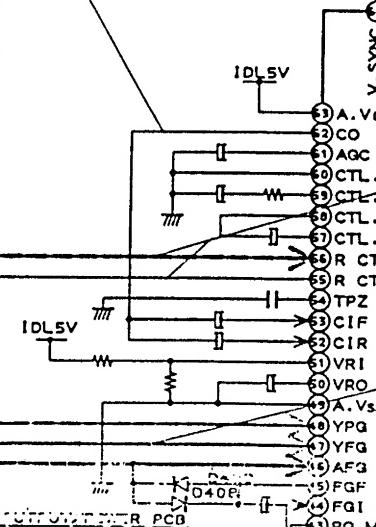
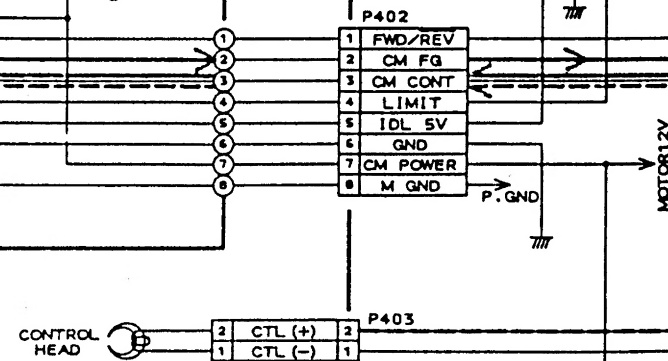
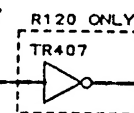
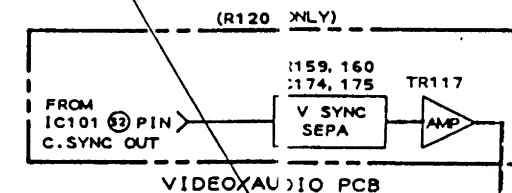
CTL (PB)

CM PHASE REFERENCE

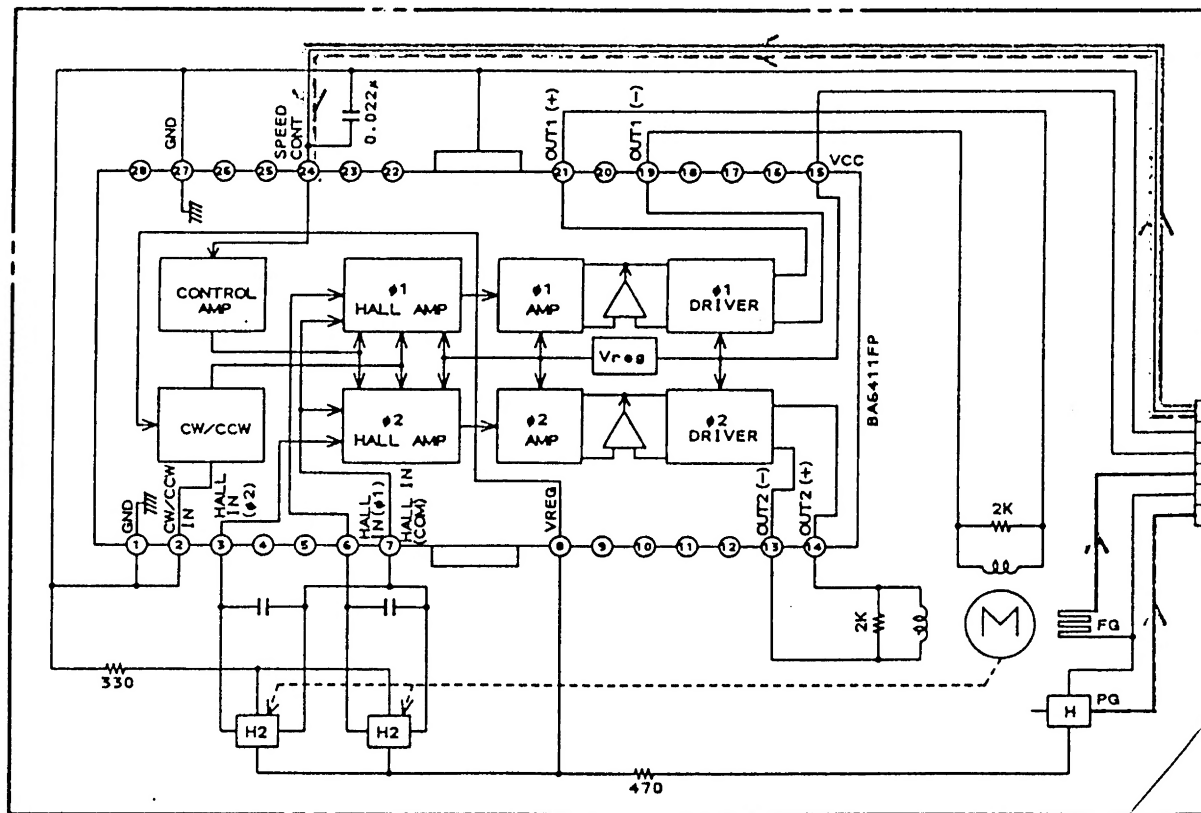
MODE	REFERENCE
PB	CTL SIGNAL
REC	V-SYNC



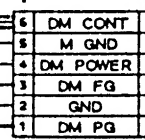
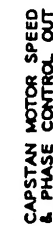
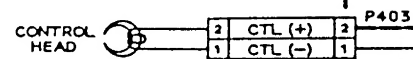
CAPSTAN MOTOR (DFX-67B3VWB2)



CAPSTAN MOTOR (DFX-67B3VWB2)

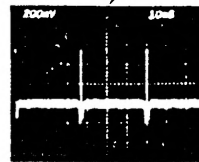


DRUM MOTOR (DCX-3A3VRA)

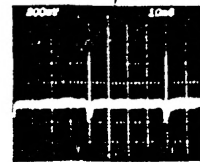


UNR14V,

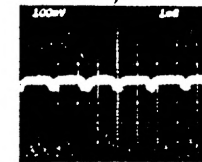
TR (2) PCB



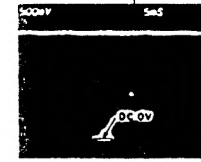
DM PG IN (NTSC)



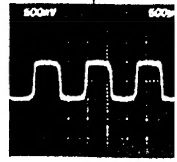
DM PG IN (PAL)



DM CONT OUT



CM CONT OUT

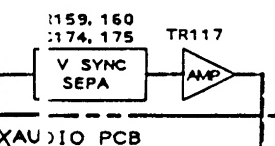


CM FG IN SIGN

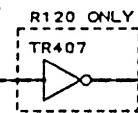
CM PHASE REFERENCE

MODE	REFERENCE
PB	CTL SIGNAL
REC	V-SYNC

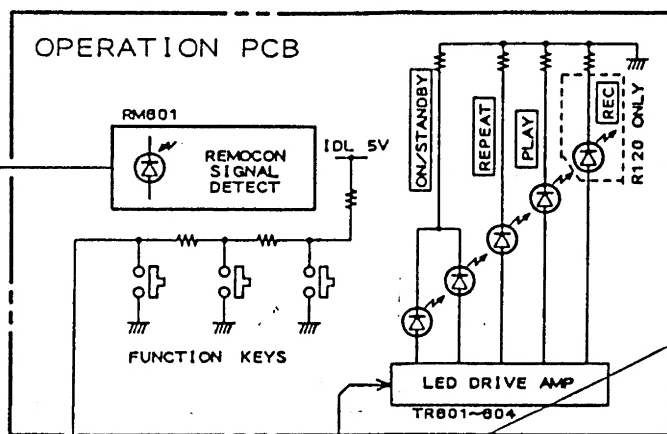
20 ONLY)



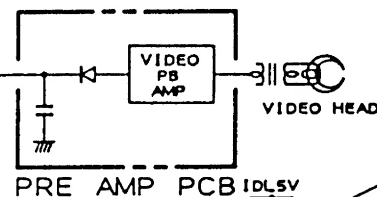
CAUTION PCB



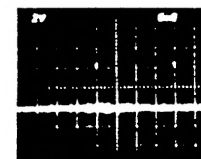
OPERATION PCB



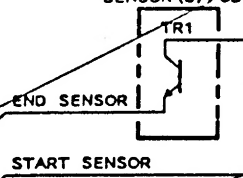
(AUTO TRACKING CONTROL SIGNAL)



V SYNC

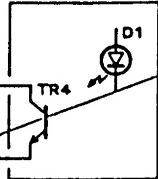


SENSOR (S) PCB

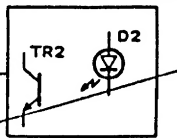


SENSOR PCB

START SENSOR



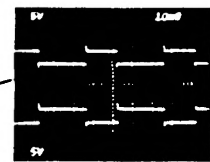
TAKE UP REEL PULSE GENERATOR



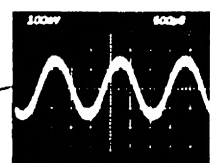
MODE SW (MECHA. POSITION DETECT)



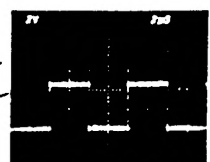
ENVELOPE DETECT (LOWER V. OUT)



REC CTL SIGNAL (UPPER: 59 PIN, LOWER: 58 PIN)

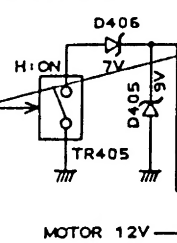
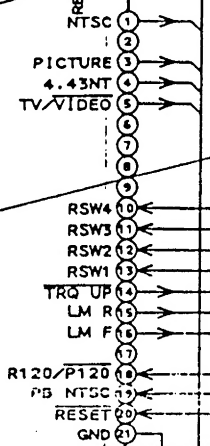


DM FG IN f=599.79Hz

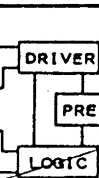


DM SPEED ERROR PULSE (PWM)

IC401
MN6750165-XDY
QXPBR1

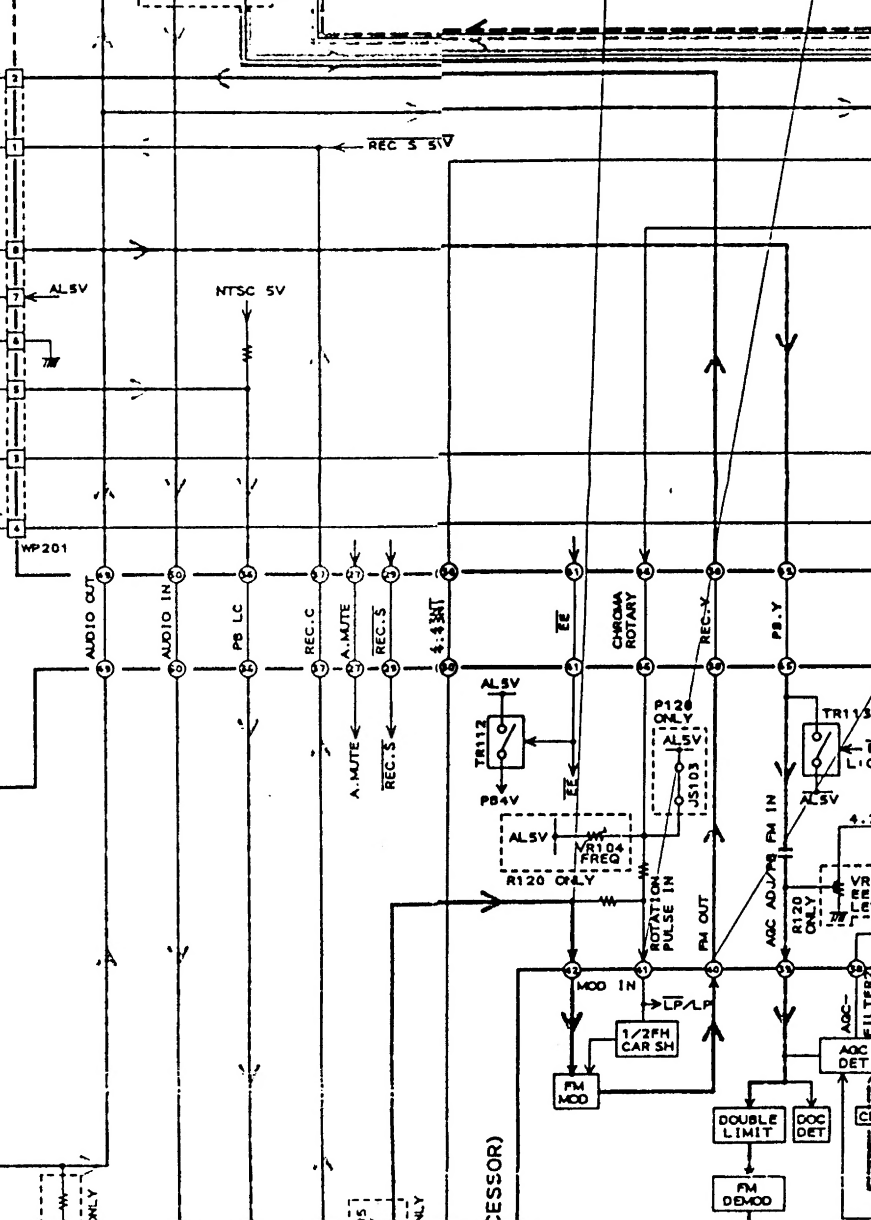
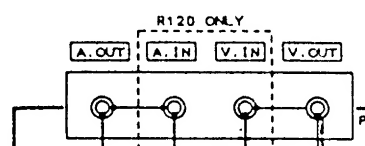
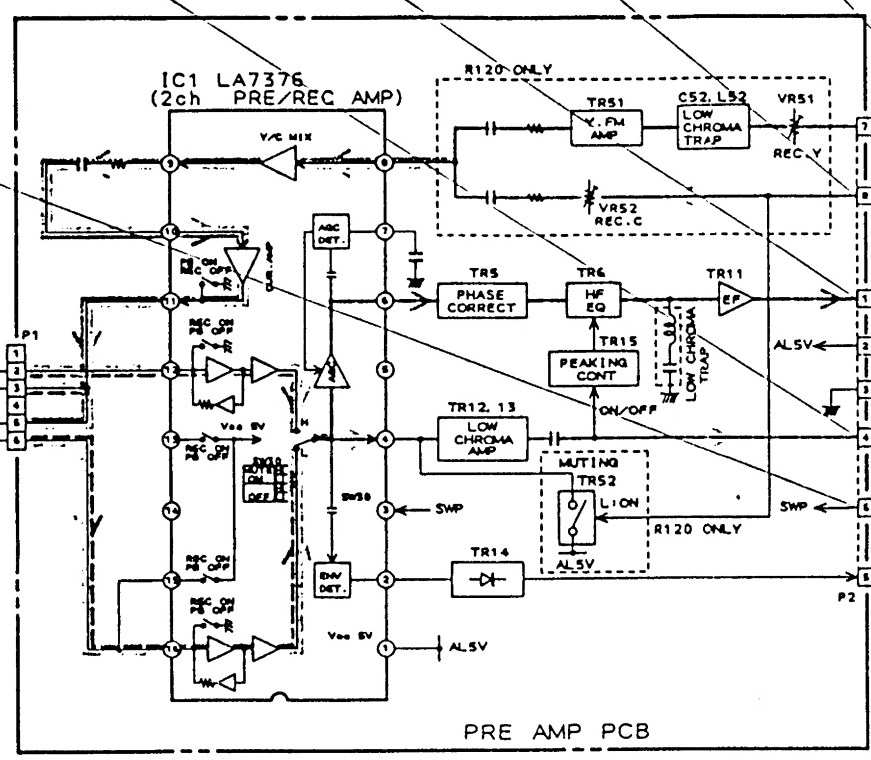
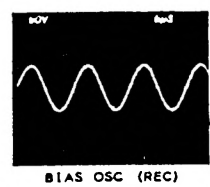
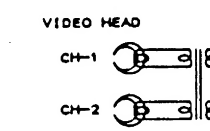
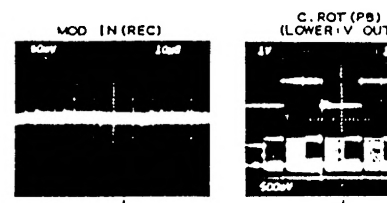
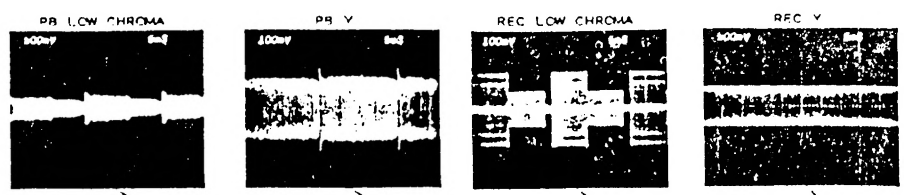


IC404
BA6229

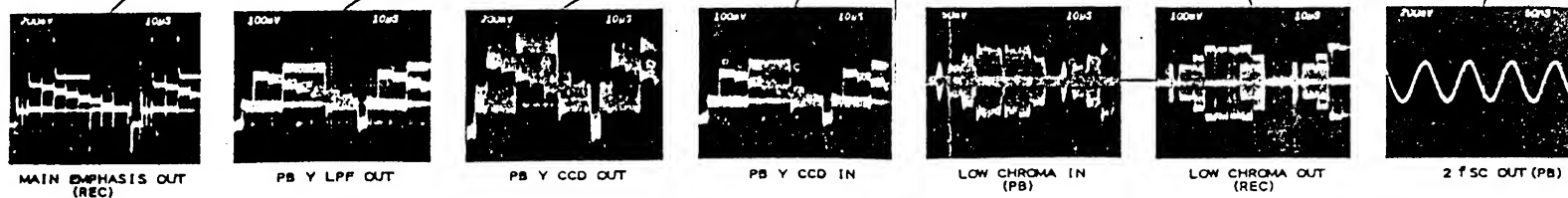
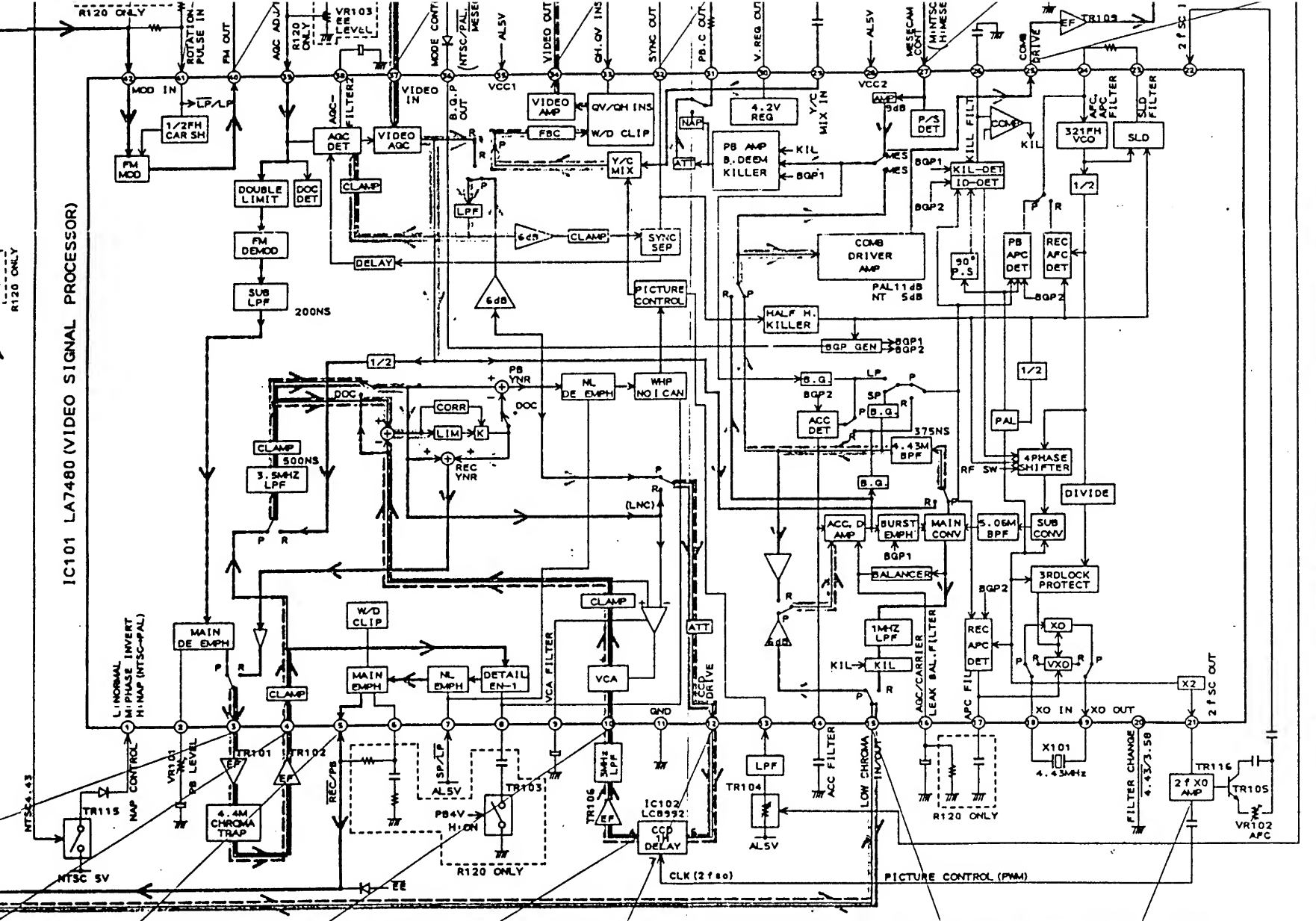


LOADING MOTOR

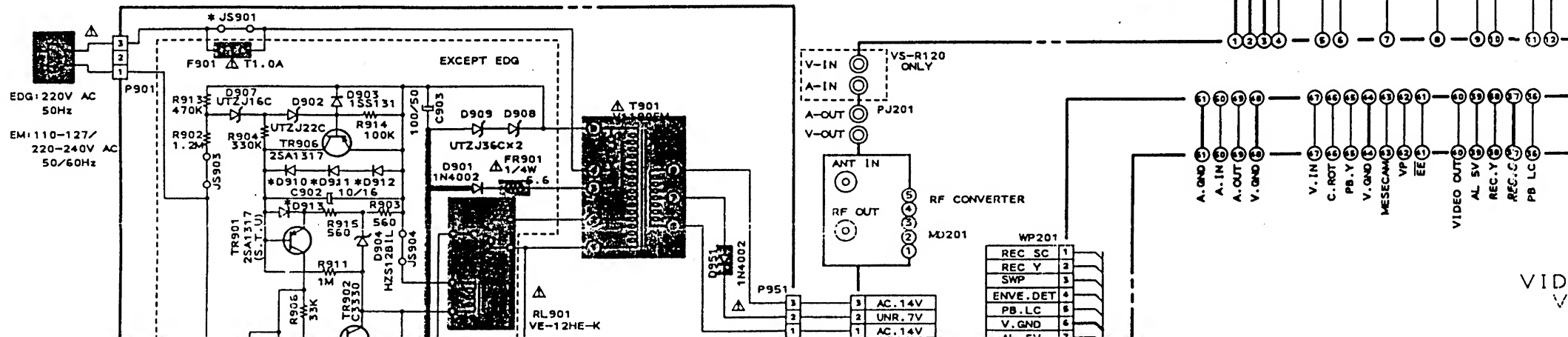
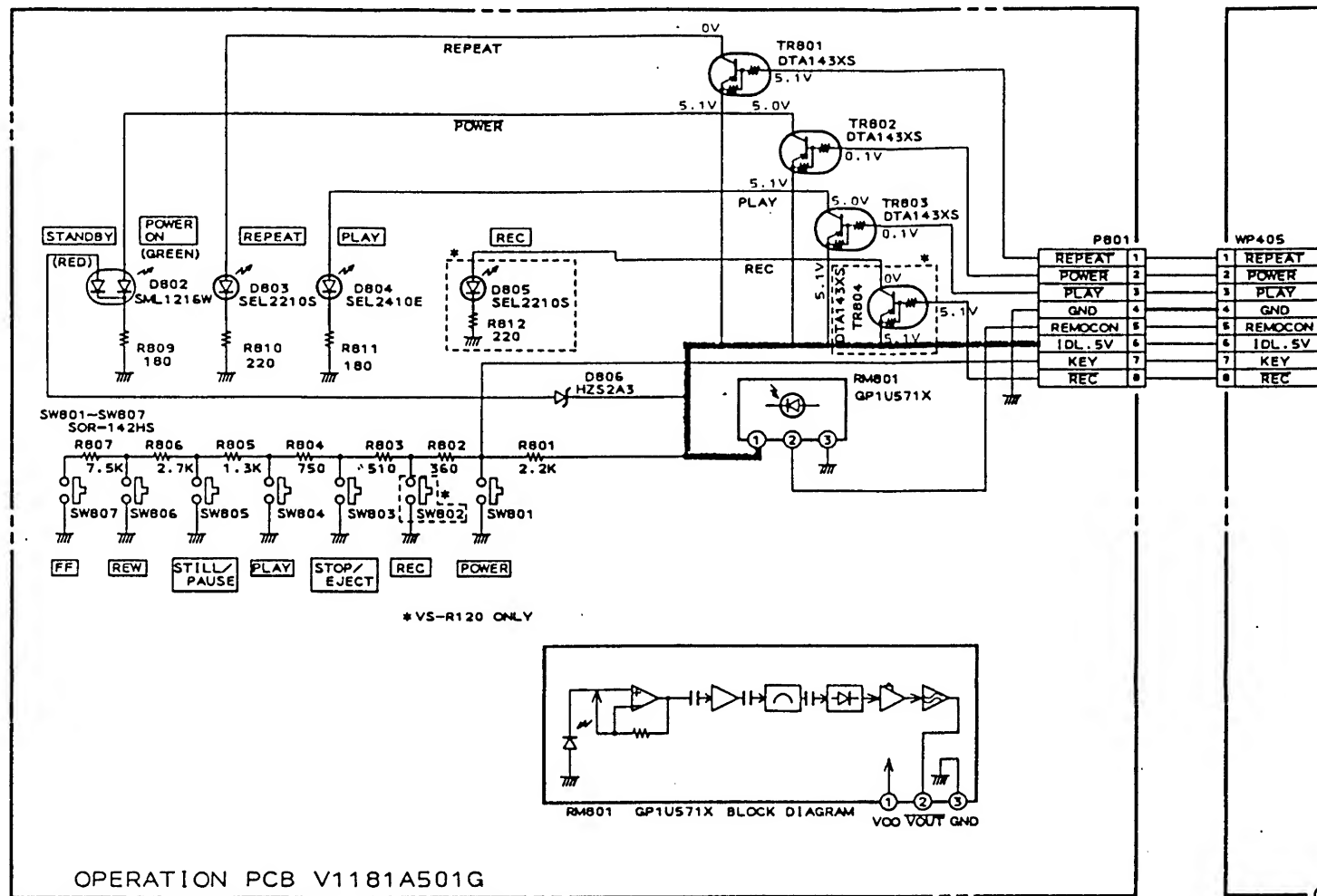
MOTOR 12V



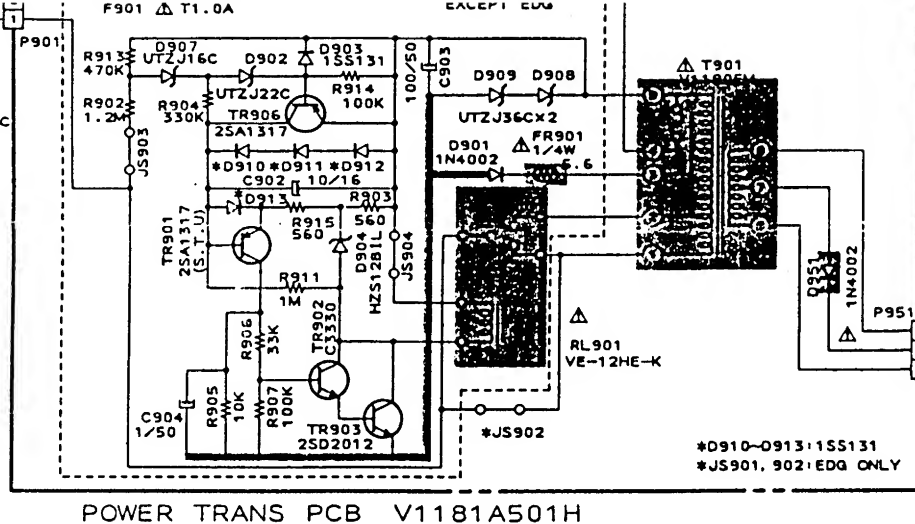




VS-R120EM
VS-P120EM
VIDEO & AUDIO
BLOCK DIAGRAM
No.2-2 V118152M
A1



EDG: 220V AC
50Hz
EM: 110-127/
220-240V AC
50/60Hz



POWER TRANS PCB V1181A501H

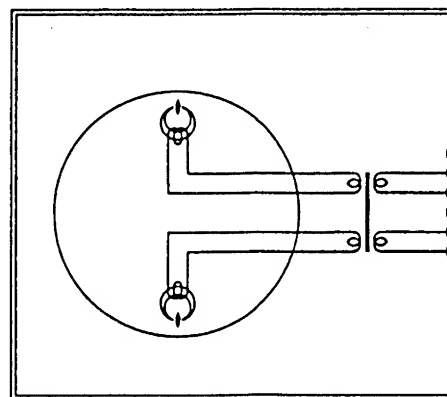
PRIMARY SECTION
*INDICATED VOLTAGES WERE MEASURED
DURING STOP MODE.
(CONNECTED DC VOLTMEETER'S GROUND
TO THE TR903 EMITTER WHEN MEASURED)

		DC VOLTAGES		
		B	C	E
AC 110V (220V)	TR901	35.4V (41.8V)	1.4V (0V)	36.0V (41.8V)
	TR902	1.1V (0V)	0.5V (0V)	23.3V (41.8V)
	TR903	23.3V (0V)	0.5V (41.8V)	0V (0V)
	TR906	36.5V (41.9V)	35.4V (41.8V)	36.6V (41.7V)

—— B (POWER SUPPLY) LINE
- - - - PB Y SIGNAL LINE
—— REC Y SIGNAL LINE
- - - - PB CHROMA SIGNAL LINE
—— REC CHROMA SIGNAL LINE

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F (P-PF)
ALL ELECTROLYTIC CAPACITORS IN μ F/W

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
() : REC MODE

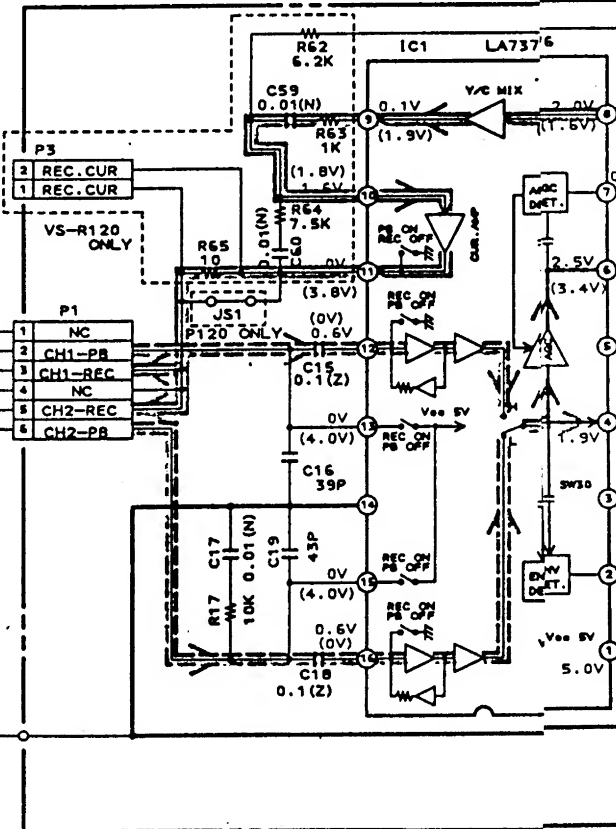
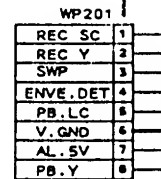


VIDEO HEAD DRUM BLOCK

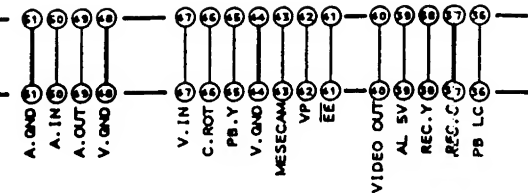
WARNING: Δ AND \blacksquare INDICATE SAFETY CRITICAL
COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED
PARTS

AVERTISSEMENT: Δ ET \blacksquare , ILS INDIQUENT LES
COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ
DE L'APPAREIL, NE REMPLACER QUE DES
PIÈCES RECOMMANDÉES PAR LE FABRICANT

OUTPUT/POWER PCB
V1181A501B



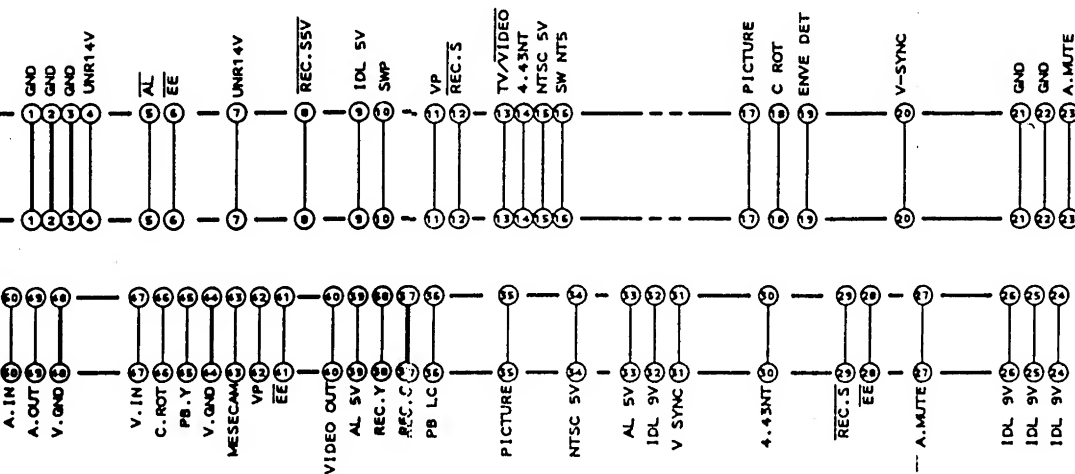
PRE AMP PCB V1181A501D



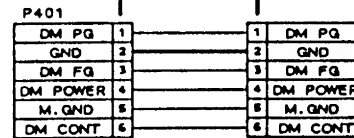
VIDEO V

T
ON
SV

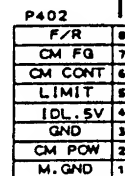
CONTROL PCB
V1181A501C



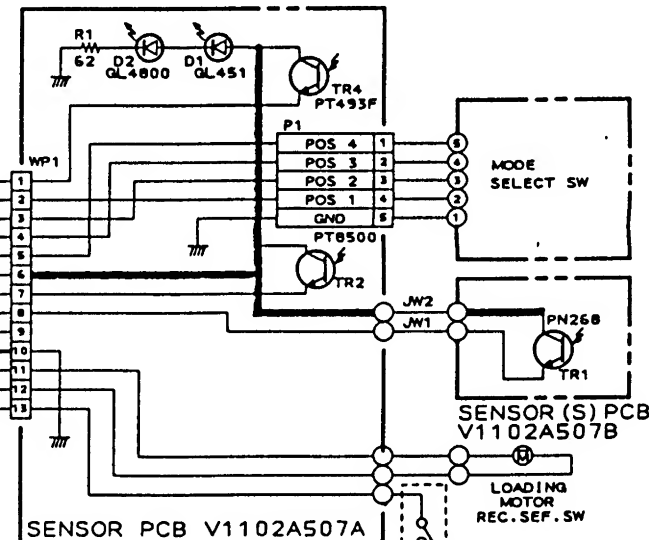
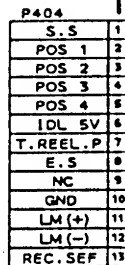
VIDEO/AUDIO PCB
V1181A501A



DRUM MOTOR
DCX-3A3VRA

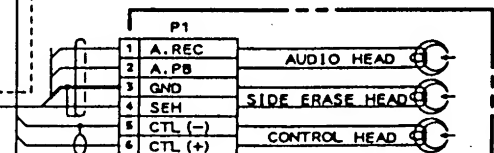


CAPSTAN MOTOR
DFX-67B3VWB2

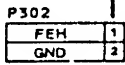


SENSOR PCB V1102A507A

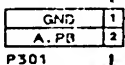
LOADING MOTOR
REC.SEF.SW



A/C HEAD PCB V1102B5120

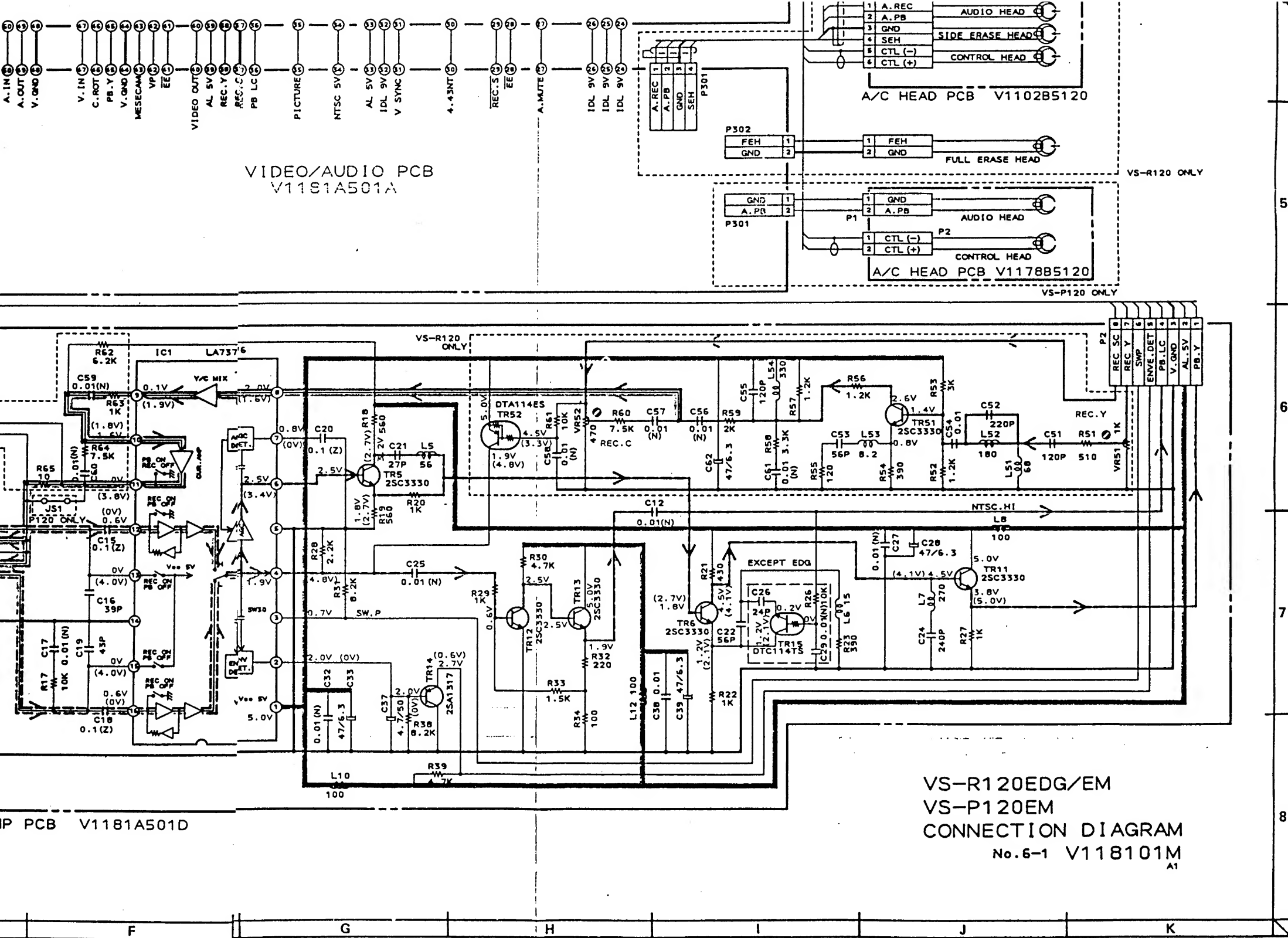


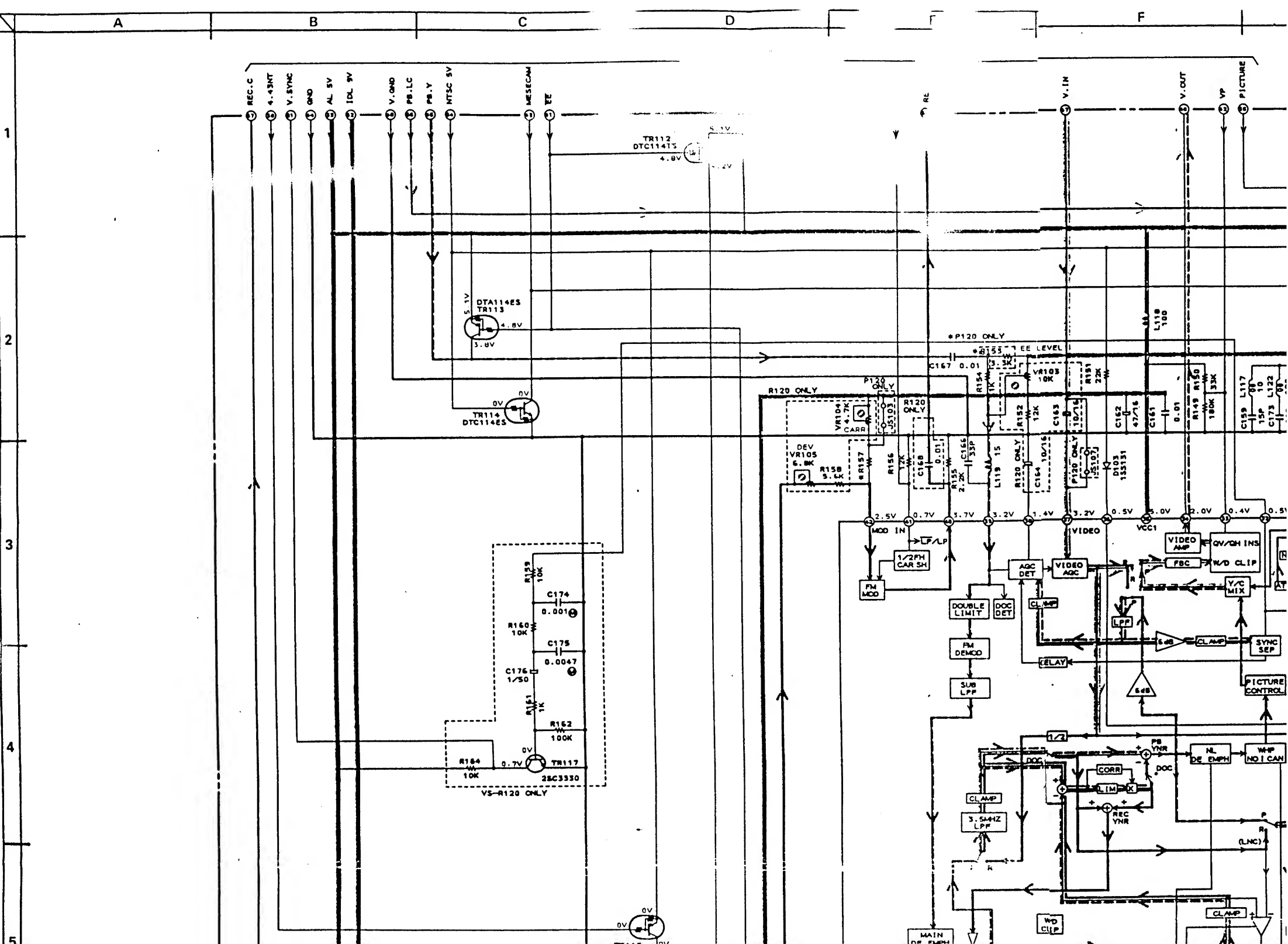
FULL ERASE HEAD



AUDIO HEAD

VS-R120 ONLY

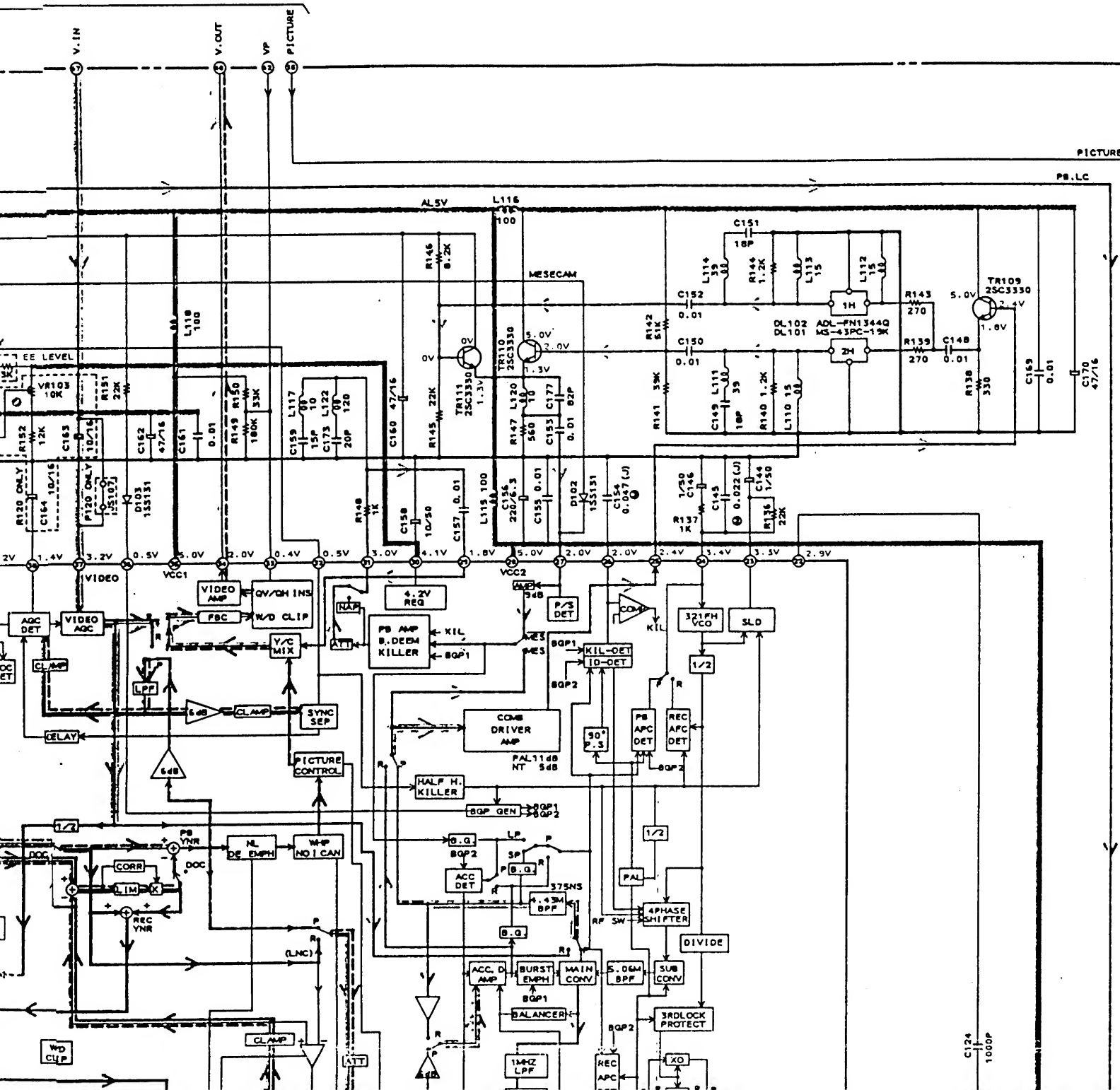


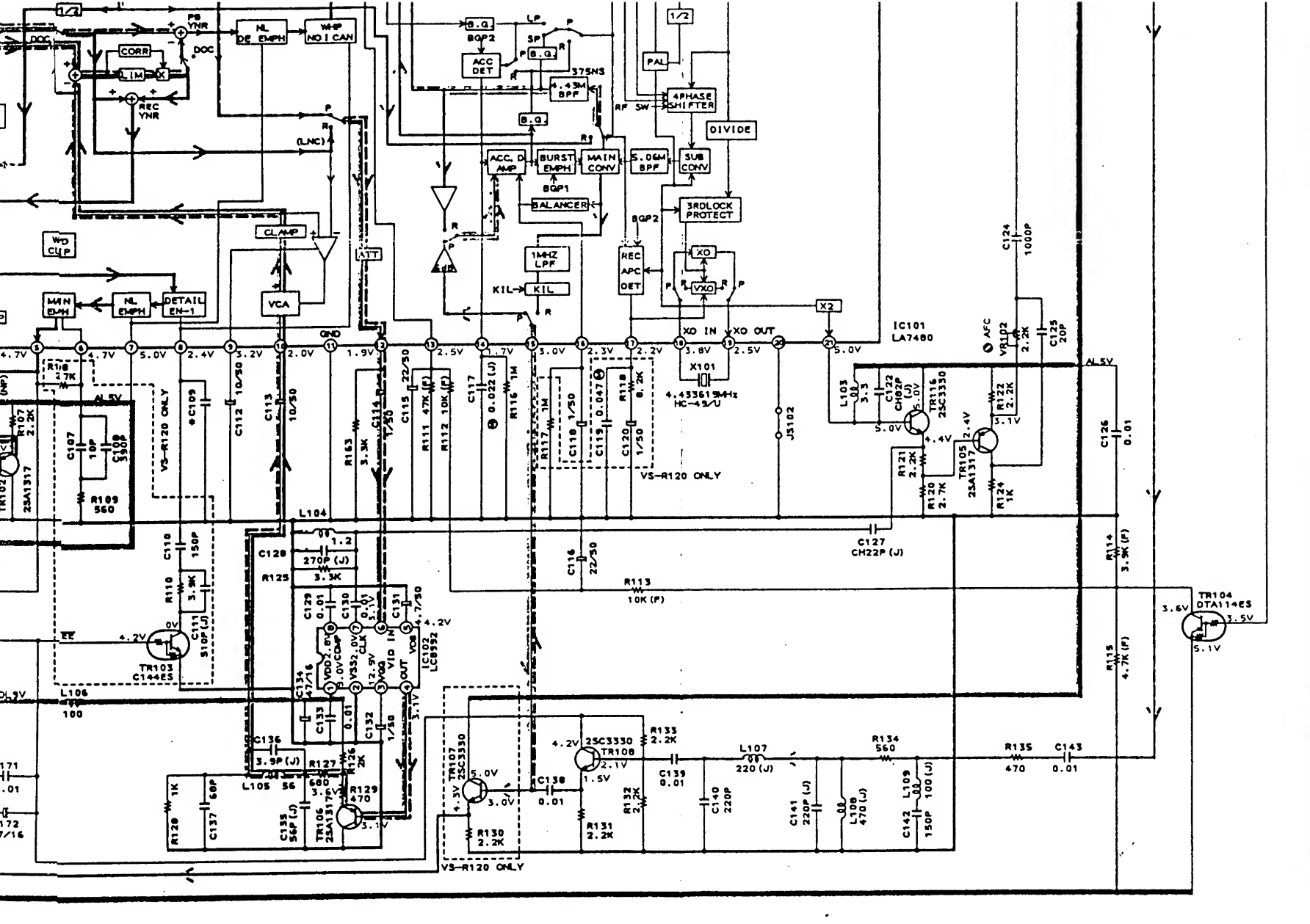


VIDEO/AUDIO PCB V1181A501A

*	R120	P120
C109	4.7P	120P
R157	9.1K	10K

————— B (POWER SUPPLY) LINE
 - - - - - PB Y SIGNAL LINE
 ————— REC Y SIGNAL LINE
 - - - - - PB CHROMA SIGNAL LINE
 ————— REC CHROMA SIGNAL LINE

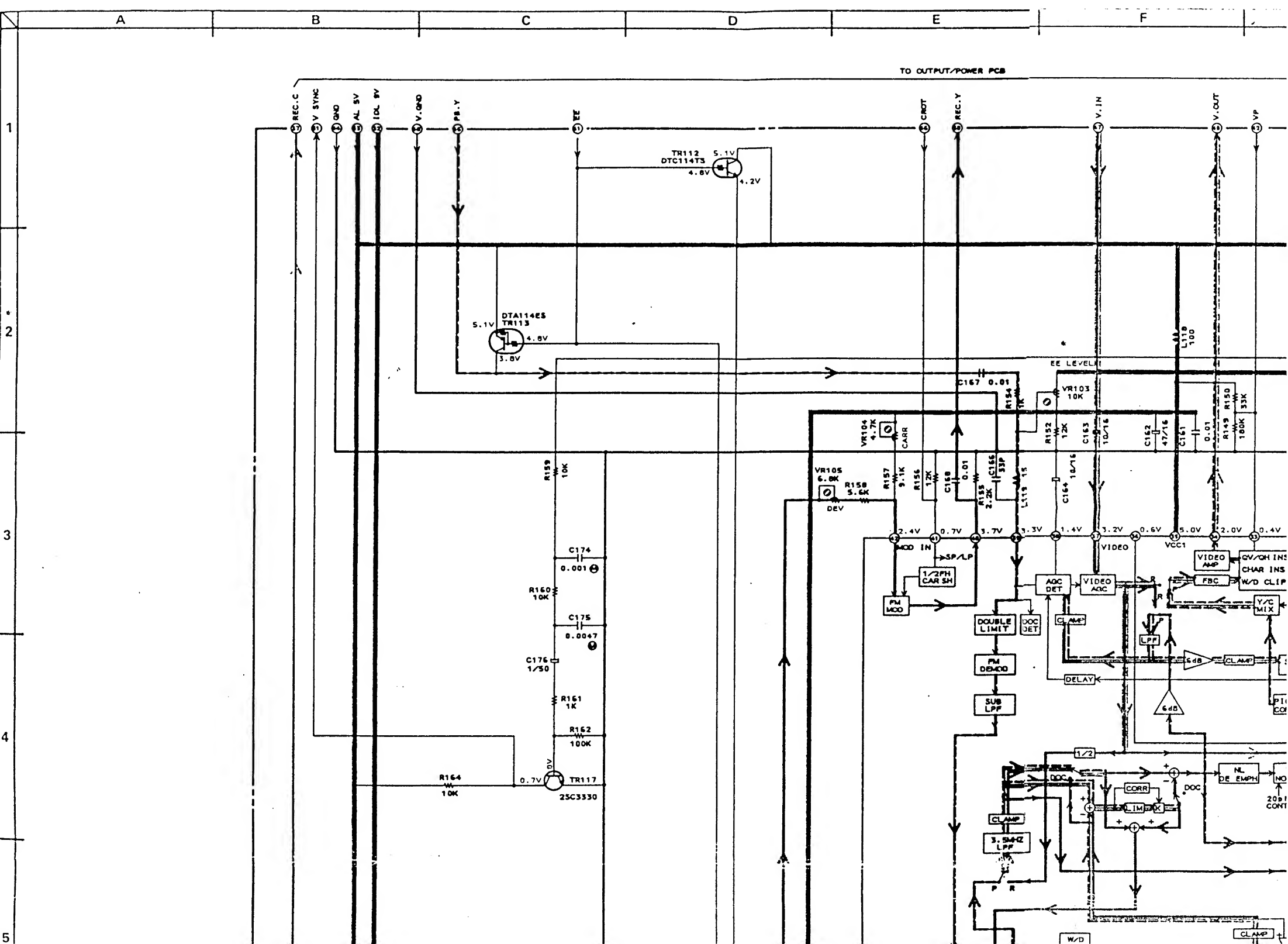




INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE USED: PAL RECORDED
TAPE)

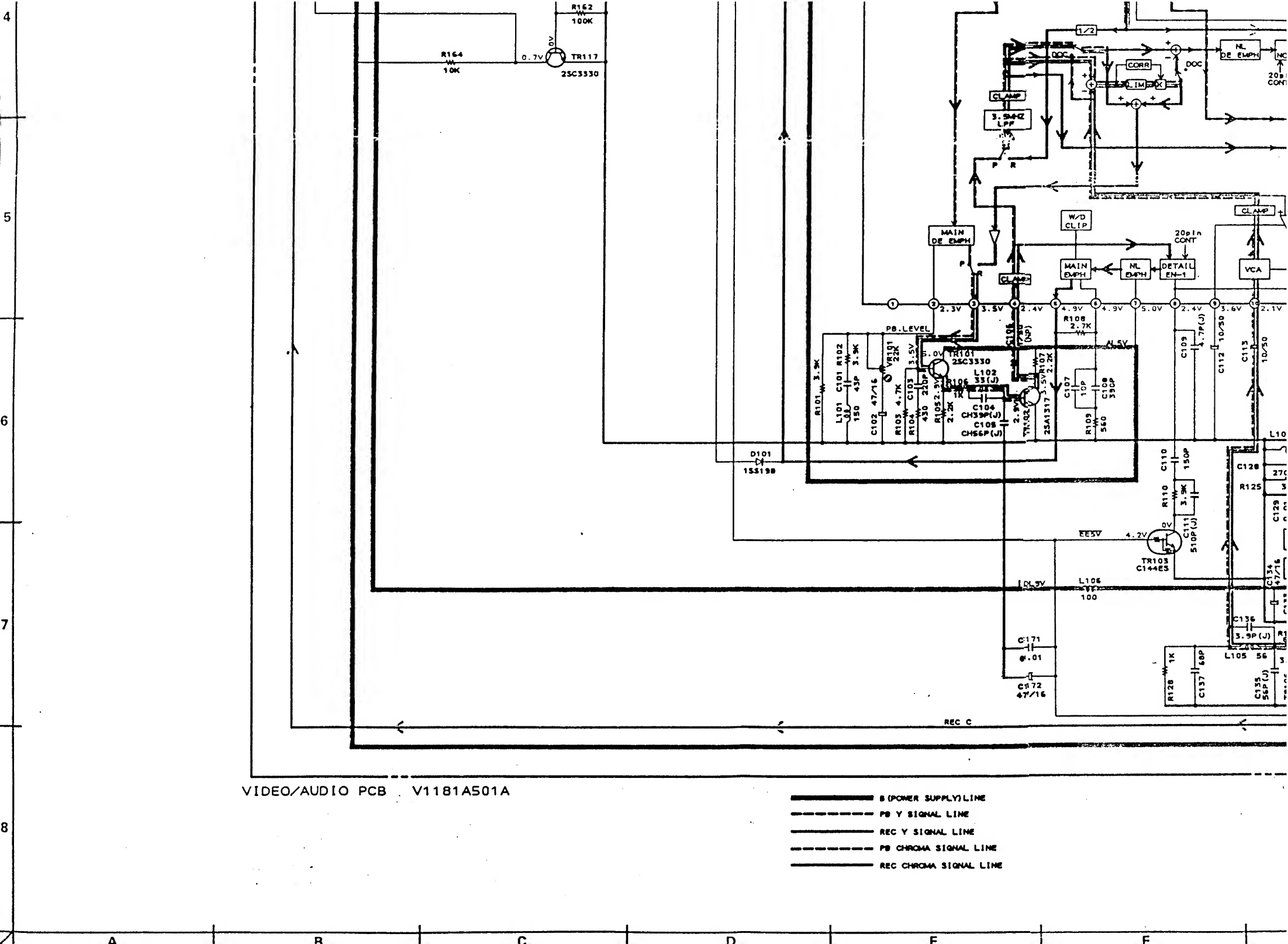
NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PPF)
ALL ELECTROLYTIC CAPACITORS IN $\mu\text{F}/\text{V}$
ALL INDUCTOR IN μH (K)
⊗ IS FILM CAPACITOR

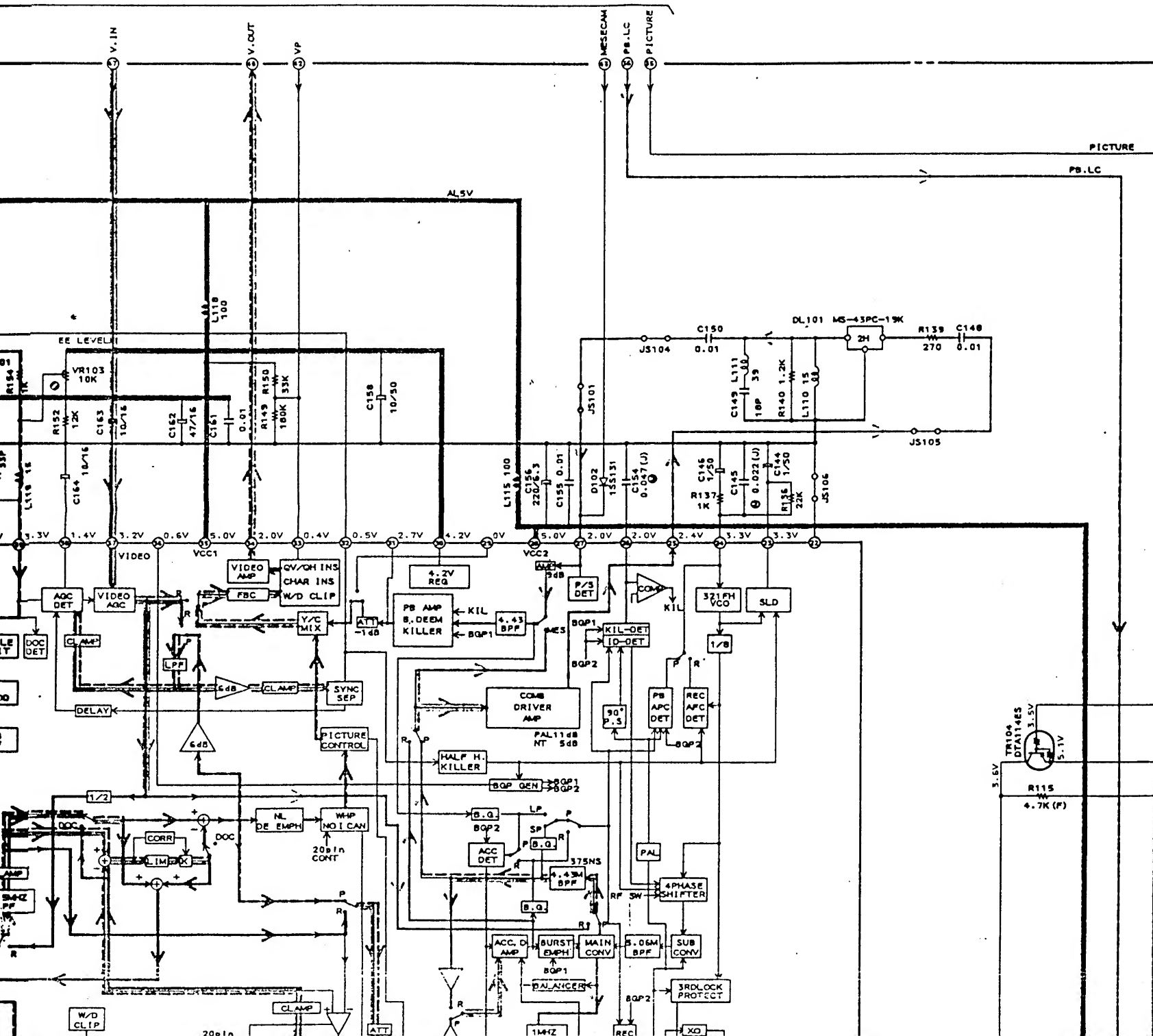
VS-R120EM
VS-P120EM
VIDEO/AUDIO (1/2)
SCHEMATIC DIAGRAM
No. 6-2 V118102M
A0

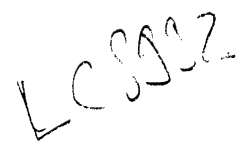


VIDEO/AUDIO PCB V1181A501A

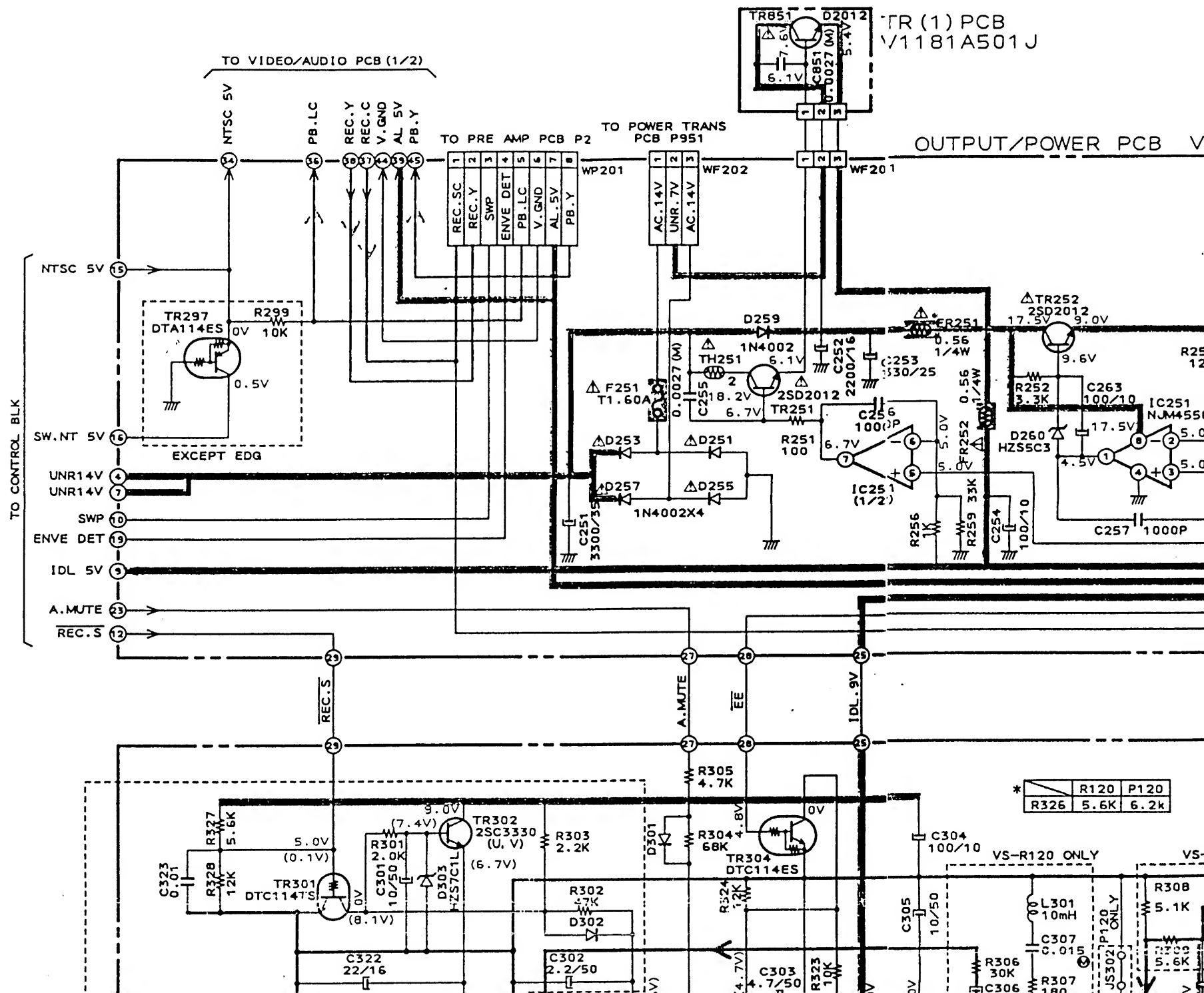
- B (POWER SUPPLY) LINE
- PB Y SIGNAL LINE
- REC Y SIGNAL LINE
- PB CHROMA SIGNAL LINE
- REC CHROMA SIGNAL LINE

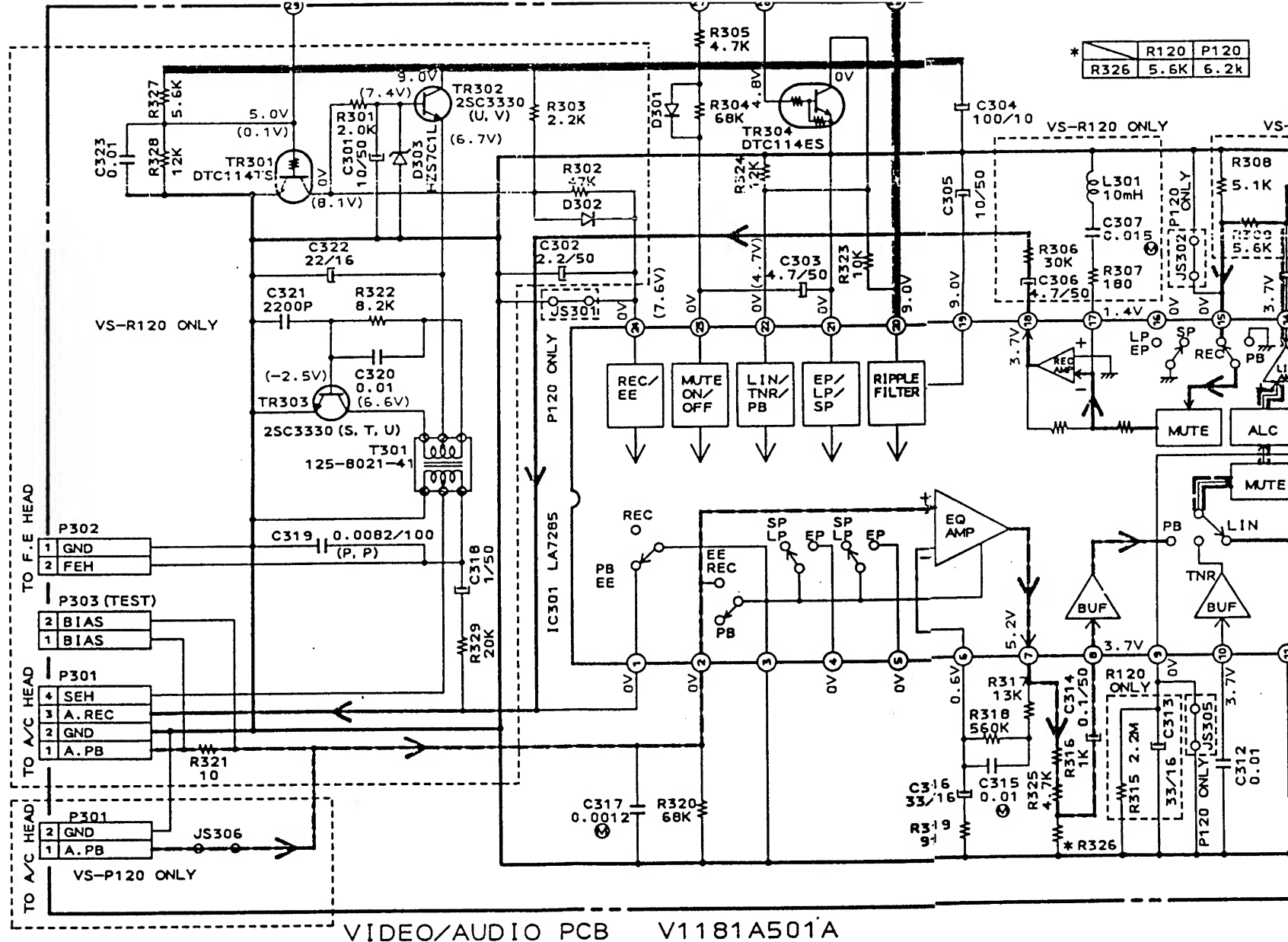






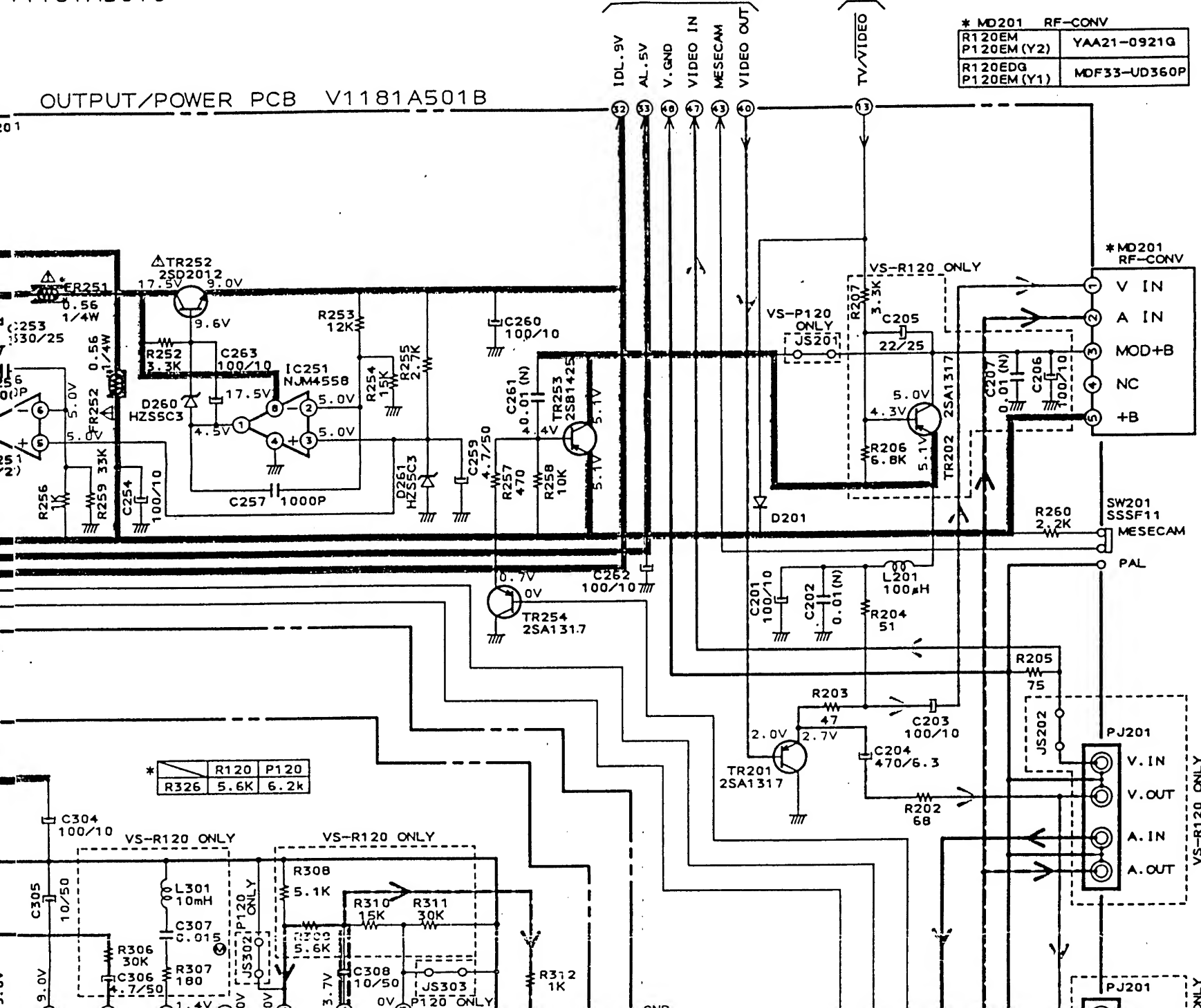
VS-R120EDG
VIDEO/AUDIO (1/2)
SCHEMATIC DIAGRAM
No. 6-3 V118103M
AO

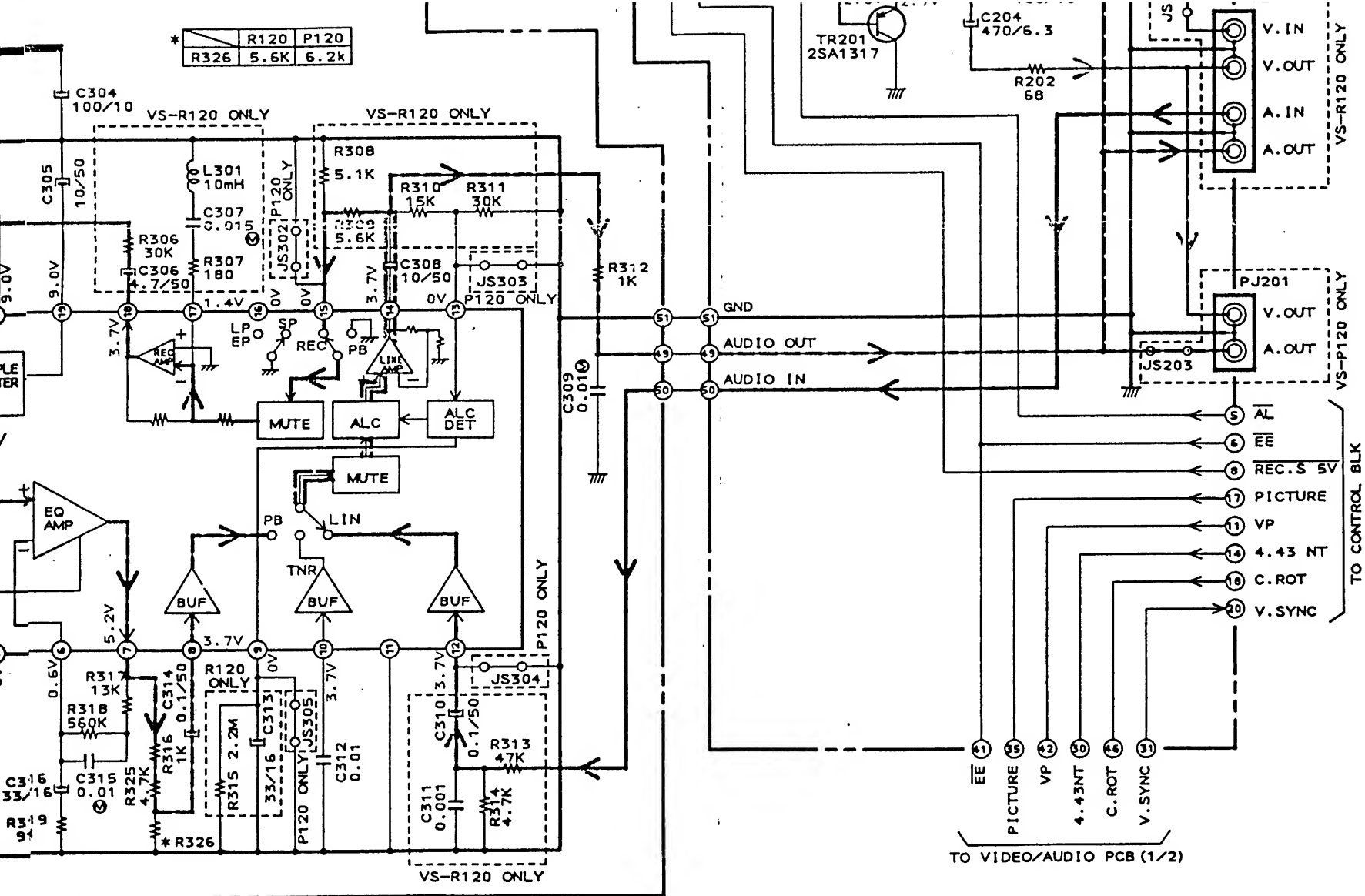






OUTPUT/POWER PCB V1181A501B



R120EM	YAA21-0921G
P120EM (Y2)	
R120EDG	MDF33-UD360P
P120EM (Y1)	



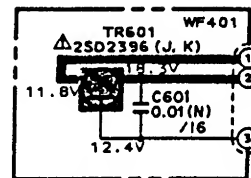


NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω M
ALL CAPACITORS IN μ F (P-PF)
ALL ELECTROLYTIC CAPACITORS IN μ F/WV
ALL DIODES ARE 1SS131T
① IS FILM CAPACITOR

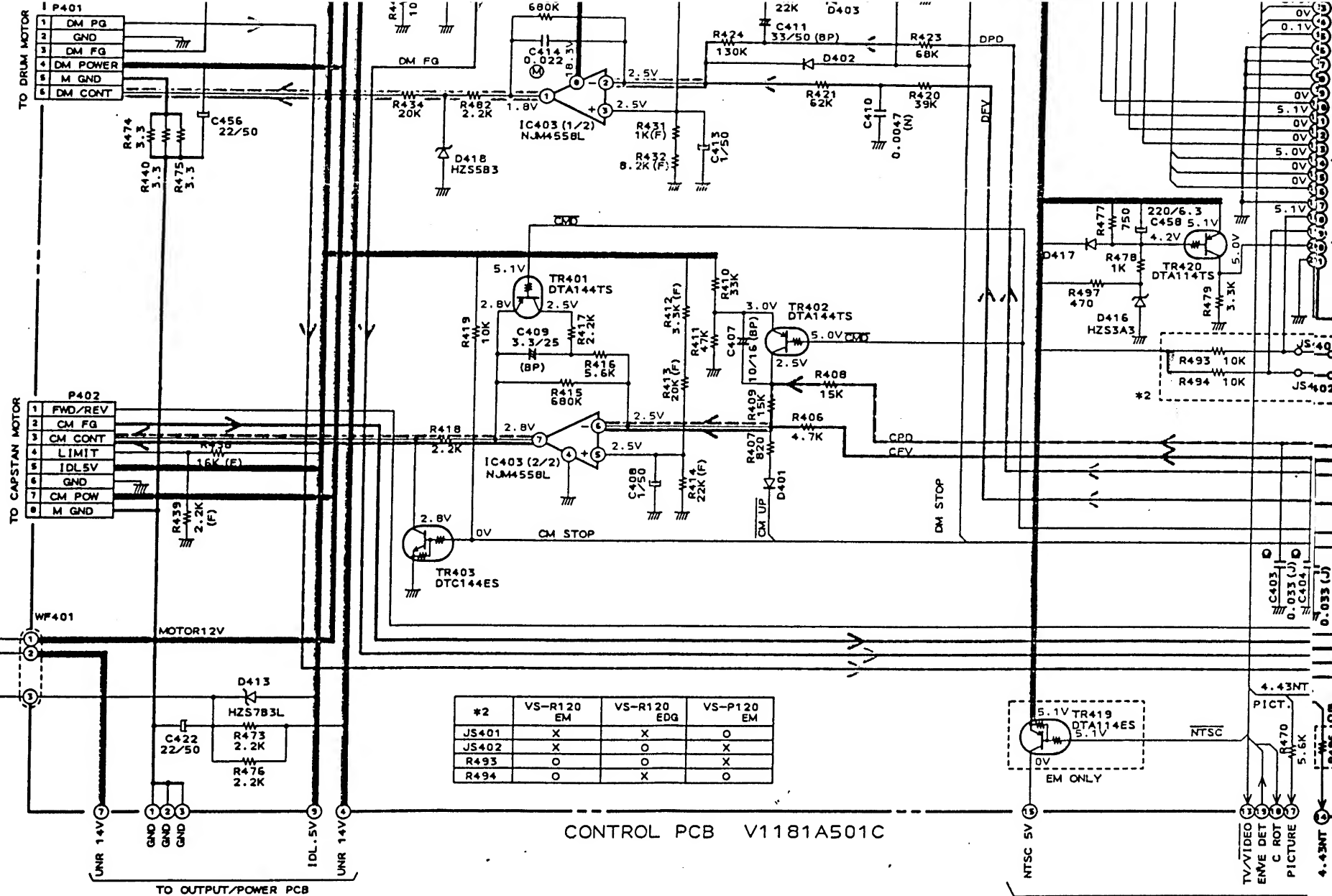
WARNING:  AND  INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT:  ET , ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

VS-R120EDG/EM
VS-P120EM
OUTPUT/POWER &
VIDEO/AUDIO (2/2)
SCHEMATIC DIAGRAM
No. 6-4 V118104M
A1



TR (2) PCB
V1181A501K



CONTROL PCB V1181A501C

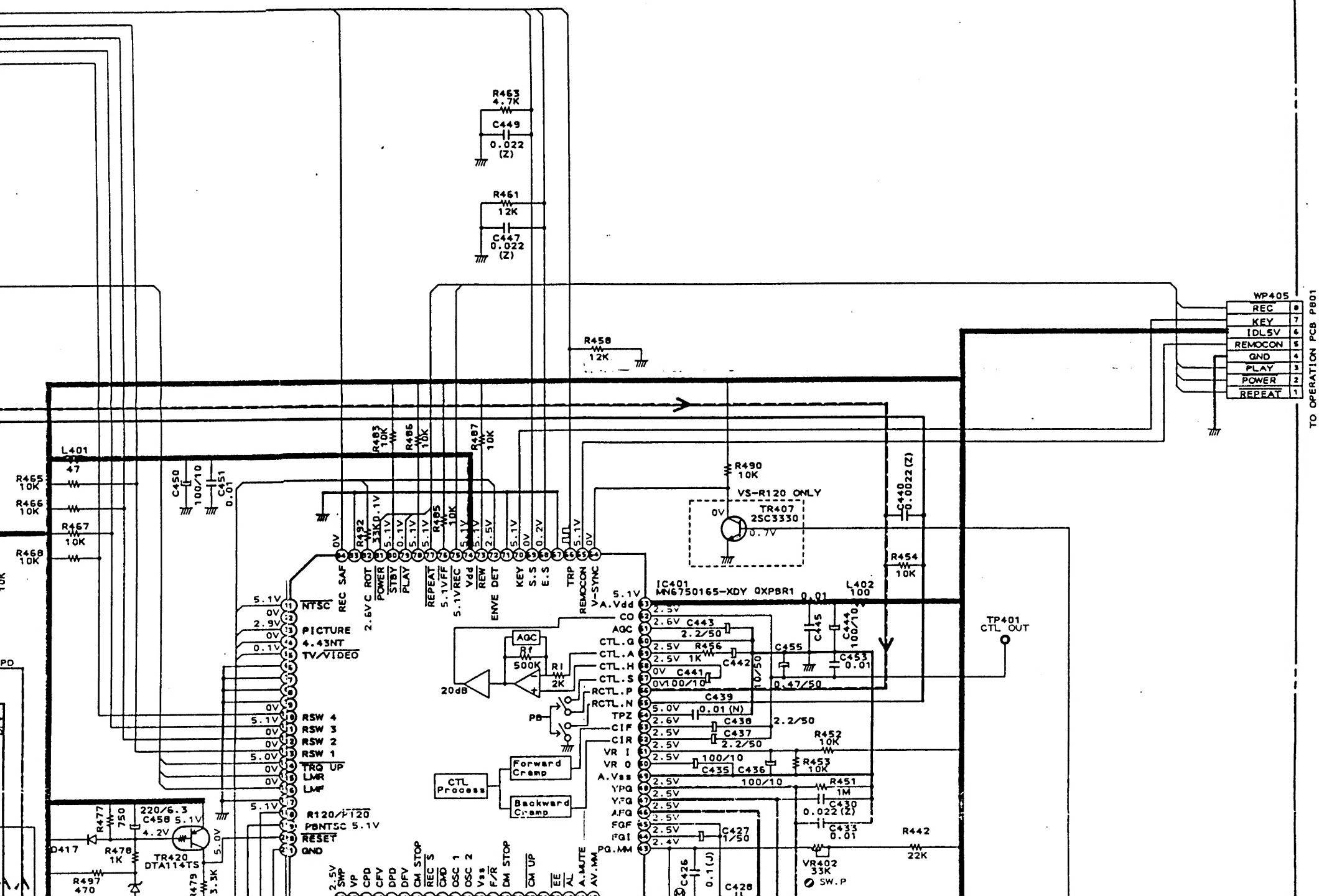
#2	VS-R120 EM	VS-R120 EDG	VS-P120 EM
JS401	X	X	O
JS402	X	O	X
R493	O	O	X
R494	O	X	O

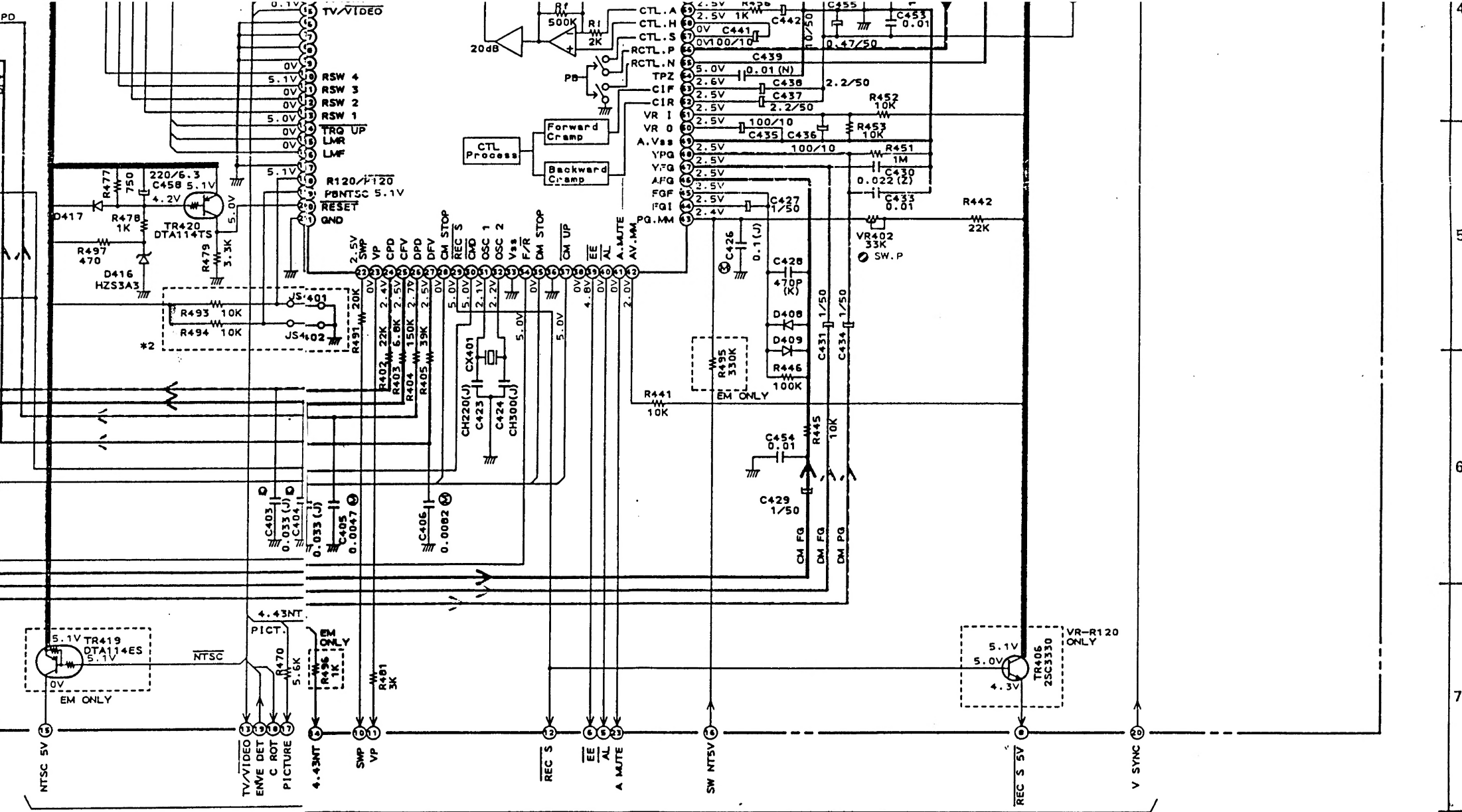
- B (POWER SUPPLY) LINE
- CAPSTAN MOTOR PHASE CONTROL LINE
- CAPSTAN MOTOR SPEED CONTROL LINE
- DRUM MOTOR PHASE CONTROL LINE
- DRUM MOTOR SPEED CONTROL LINE

WARNING: AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

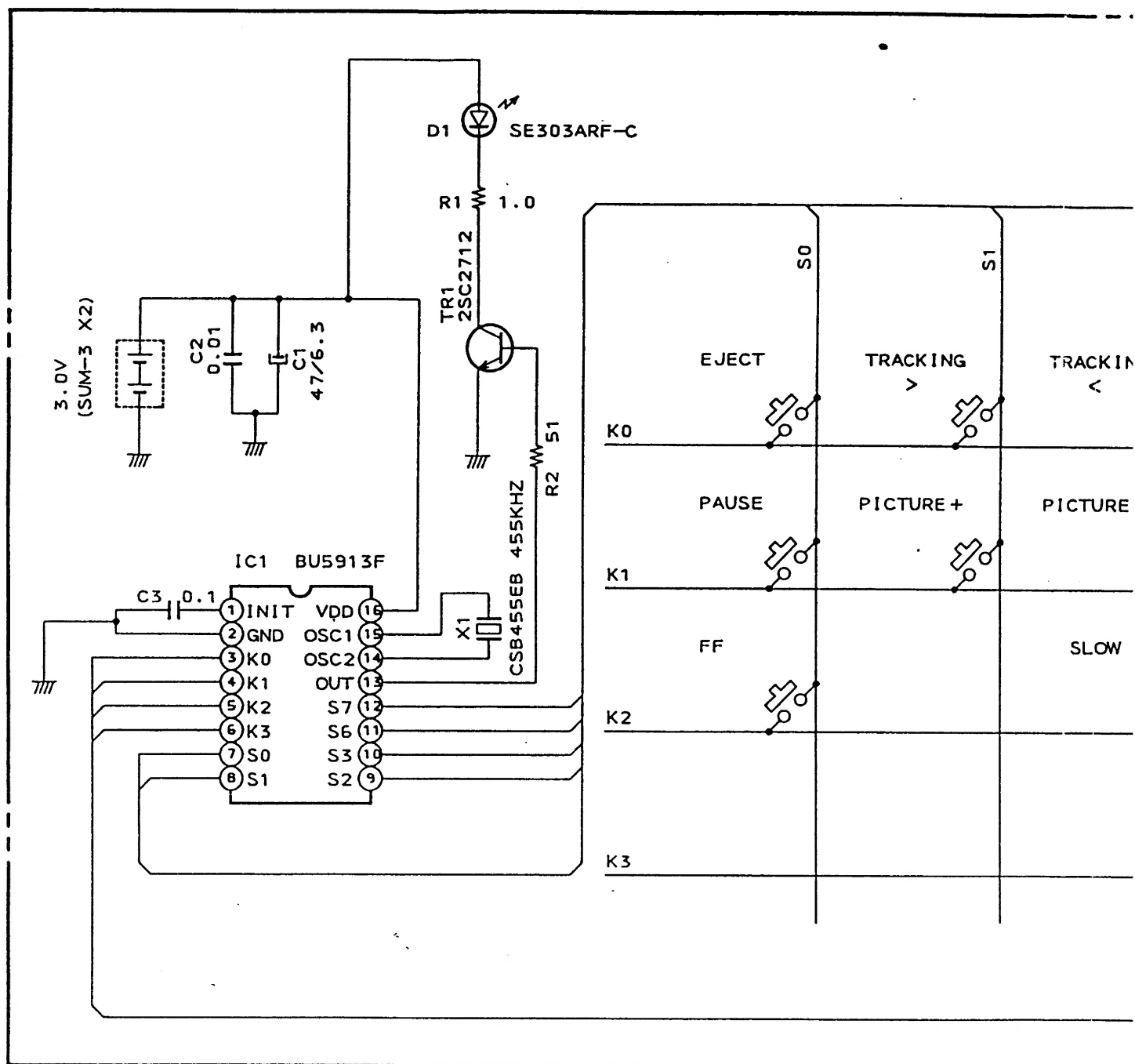
AVERTISSEMENT: ET , ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

INDICATED VOLTAGES W/ POWER MEASURED DURING PB 100





VS-R120EDG/EM
VS-P120EM
CONTROL
SCHEMATIC DIAGRAM
No.6-5 V118105M
A1



REMO-CON PCB B1030C5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F
This Schematic is only for
Avoid replacing individual
replace the entire unit onl

